## Research Report XI

# The Leather Sector: Growth Strategies through Integrated Value Chain

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**June 2008,**

**Addis Abeba,**
**Ethiopia**

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## Acknowledgment

This study was benefited from the discussions and inputs received from various sources. The cooperation from Tanneries and Hides and skin collectors, researchers of leather sector during the survey was highly appreciated. The comments and feedback provided during the EDRI seminar and Leather Sector Cluster Working group's workshop was highly instrumental in shaping the final report. The study was financed by the African Capacity Building foundation (ACBF).

# 1. Introduction

The information revolution that is happening in the 21st Century has narrowed down the global geographical barrier. Increasing globalization has speeded up integration of the world economy and is taking place than ever before. In the global economic integration, however, there are chances of both gain and loss, depending on the competitiveness of the trading firms at global level and the role of the lead firms in the market. Particularly, developing countries, which have been attached to agricultural commodities and simple manufacturing exports, face challenges of the international competition and the different selling challenges from consumers with respect to international regulations[1].

- Developing countries have understood that during globalization there has been an increasing tendency towards growing unequalisation within and between countries and a growing incidence in absolute poverty;
- Its positive and negative consequences have been felt at the individuals, households, firms, town, region and nation; and
- Without sustained economic growth, there is little hope of addressing the pervasive poverty and inequality (Kaplinsky and Morris, 2000).

Thus, global trading necessitated the need to look into the whole process of production and marketing together, from raw material to the consumer of the product- even beyond this to recycling after consumption.

Ethiopia is a least developed country with a large share of the agricultural commodities in its total export. In its total export, the manufacturing sector has a share of only 30% in 2000/01 and 2001/02 fiscal years. Within this share, the leather and leather products sub-sector has a share

[1]Such as environmental, gender, child labor, etc protocols, and regulations are sources of powers for consumers to influence exportable commodities.

next to gold. The total value of export of the leather and leather products is 52.2 million, 43.6 million and 63.7 million in the years 2002/03, 2003/04 and 2004/05 respectively, with a share of 10.8%, 7.3% and 7.8% respectively.

According to 2001/02 CSA report on Agricultural Enumeration Survey, the country has 41.5 million cattle and 28.3 million goats and sheep altogether, which is unique to any of the rest of African countries. Many problems hamper the development of this sector- lack of latest technologies, skilled work force, financial constraints, collective and individual inefficiencies, lack of access to international marketing networks, etc. As a result, the country could not exploit its huge livestock resource. In the past beginning from 1927, about 21 tanning factories are established, most of which are naturally restricted to producing semi-processed leather (pickled leather) and export it to the rest of the world without further value addition.

The world demand for leather and leather products (which includes the value chain from raw hides and skin to leather article) is between 20 and 24.3 billion USD in the period 2001 and 2005 (ITC, web). The share of Ethiopia in the total export is (only 0.00023%) on average over 2001-2003 (computed from International Trade Statistics Database), which is diminutive, compared to the share of its livestock population worldwide (3.1%, 1.8%, and 14% of the world cattle, goat, and sheep population: World Resource Institute 2004 database). Various factors are responsible for the level of using this resource- low level of investment in this sector, backward technology, lack of skilled work force in modern leather technologies, traditional use of H&S and less attention given to the leather output compared to the livestock raring for meat/mutton.

Value chain analysis of the leather sector, which looks across the whole process from the livestock resource, market, rawhide, and skins to the export market, is expected to depict the major constraints to the success of the country despite the huge livestock resource. Gross statistical figures

do not depict the exact beneficiaries along the value chain of tradable commodities.

## 1.1 Objective of the study

The major objective of the value chain analysis:

- Mapping the value adding activities from raw hides and skins (livestock basis) to the final output marketing and support institution involved in upgrading of the value chain;
- Estimate and quantify the share of each input cost in the total output, which will eventually help to identify costly input activities, along value chain and identify major intervention points; and
- Identify the available opportunities and constraints

## 1.2. Methodology

Studies in value chain require various methodological approaches. One of them is mapping of the value addition components of the chain and its actors. Most importantly, it deals with the actors of chain and its differentiations. The mapping of the chain here employs a methodological approach beginning from secondary sources of review of literature, which includes both theoretical and empirical analysis. Primary data collection also takes place using purposive sampling of collectors, modern abattoirs, and Tanneries. The selection of tanneries is based on their experiences in the sub-sector. In this respect, the mapping exercise includes the chain from the farmgate level to final processors and consumers. At the processors level, tanneries are the most critical factors where most value addition created. Data collection and quantification on the selected actors has been undertaken through a Participatory Rapid Analysis (PRA) analysis. The analytical framework includes quantification of descriptive analysis. Estimates for the quantification of the value chain at each step is

based on the 2005/06 data from Ethiopian Tannery-one of the biggest producing pickle and finished leather and exporting its output.

## 1.3. Scope of the study

One limitation in the VCA is the restriction to specific industry in a country, which makes comparison across the globe difficult. This study, while attempting to map the value chain at all levels of the actors, it does not look into the problems of existing rural collectors, the institutional support to enforce regulations, technology transfer issues, and competitiveness in the global market.

# 2. Theoretical Framework

## 2.1. The context

Value chain analysis (VCA) has become a typical instrument in modern marketing since the early 1980s. Most importantly, as a new approach, it systematically confronts the problem of income distribution in the value chain and deal with factors that play roles in increasing or decreasing the whole income in the system. The scientific definition of the value chain analysis comes to its current stage after many contributions from various scholars. In Kaplinsky and Morris (2000), the definition encompasses simple value chain and extended value chain. Simple value chain describes the full range of activities, which are required to bring a product or service from its conception, through the different phases of production involving a combination of physical transformation and the input of various producer services, delivery to final consumers and final disposal after use. This implies the process of design, production, marketing and consumption and recycling. The extended value chain is falls within this

definition; however, due to the complexity in the real world, there arise many links in the chain.

Value chain is defined as the institutional arrangements linking producers, processors, marketers, and distributors; often separated by time and space that progressively add value to products as they pass along the chain.

In the leather sector of Ethiopia, particularly the tanneries, the buying foreign factories, and wholesalers play the role of lead firm, which restrict the tanneries to deliver their outputs in pickle, wet blue, crust or finished leather; with the quantity, standard, etc are also influenced by the firms. Under this condition, the degree of integration of tanneries into the global market is so low that leading firms have big role to influence their activities.[333] In the leather articles factories, probably the whole sellers and the retailer foreign firms influence the types of the products- size, fashion, and quality.

Some literature also indicated that the overall global trend in the governance chain is derived by increasing number of developing countries in contract manufacturing for a decreasing number of global buyers; brands play an impotant role and large number of developed country firms come to be retailers-with companies holding the brands play the biggest role in global value chain. Moreover, rather than price competition, quality, brand and speed have come to be important sources and business-to-business as electronic commerce has became powerful infrastructure, with agencies of certification, monitoring and accreditation. Firms of developing countries like Ethiopia seem to be far behind this game of international competition.

Research in value chain analysis has more qualification for its nature of

[333] As such, there is no clear theoretical literature discussing the relationship between the degree of integration into the global economy and the level of significance of the lead firms.

engulfing the whole chain of activities of the business, which suggests that failure in one of the actors in the system can hamper the whole process; and multidisciplinary approaches to research has got significant practicality as the process from design, production marketing and recycling involves information /data input of all technocrats in the line. Economists have also paid more attention to marketing and distribution, underling the examination of flows of information and objects between the stages of activity in the supply chain systematicaly.

It is underlined that the determinants of income distribution in the value chain are most importantly the barrier to entry. VCA provides direct line of entry into identifying the nature and extent of these barriers to entry along the chain. Moreover, it also provides a perspective to the dynamics of entry barriers both endogenous, i.e., coordination of interlink activities which gives rise to relational rents; inter-firm relationships, and exogenous, i.e., trade policies, externalities both in developed and developing country firms control against immigration ones.

To the question of what can be done to chain the distributional outcomes in the chain, Kaplinsky et al (2000) suggested the following four factors are important

- comprehensive focus on the on the different components of the rent and identifies which activities are able to sustain high incomes;
- identifying activities which are subject to growing competition by focusing on barriers to entry in the chain;
- power relations and institutions explains whose behavior needs to change if different outcomes are to emerge; and
- looking in to the national system of innovation beyond being limited to firm level .

The VCA uses a method that addresses issues and outlined as the point of entry for VCA, mapping value chains, product segments and critical success factors in final markets, how producers access final markets,

benchmarking production efficiency, governance in value chains, upgrading, and distributional outcomes.

## 2.2. Studies in the sub-sector

Studies on the VCA are limited in scope for leather sub-sectors. The largest channel accounting for 90% of the skins and 70% of the hides entering the LLP value chain sources input from the backyard slaughter of animals by small-scale farmers, who bring the hides and skin to the local markets or through local collectors (Farmer 2005). Moreover, the supply of sheepskins in to the LLP value chain comes primarily from the highlands of Ethiopia, as the sheepskins from lowlands cannot resist chemicals involved in the tanning process, while bovine hides and skin comes from lowlands. An important finding is that there is no price differentiation depending on the quality (ibid, p.1; UNCTAD, 2002). The same study found that over 30% of the H&S collected and brought to tanneries were "rejected" due to defects or low quality. With regard to the tanneries, only 45% of the installed capacities for skin processing and 81% for hides processing of the tanneries is utilized due to lack of supply of raw materials. Over 80% of the tannery output is exported directly as pickled sheepskin or wet blue in to the international market. The processing technology is in its lowest stage and the SMEs and the informal sector are engaged in shoe manufacturing; and a key challenge to retail in the footwear industry is the cheap imported shoe from china (p2). The lack of markets support hindered largely the development of LLP industry in Ethiopia, as unreliable telecommunications and electric supply prevent quality, delivery time, flexibility and design (p.3).The lack of electricity efficiency is similar to the problem of the leather firms in Nigeria (World Bank, 2005). Inter-firm linkages are in general found to be week both at association level and at vertical integration despite a few subcontracting arrangements between Ethiopian and foresight firms (p3). The study suggested the need to improve quality of H&S entering the value chain through detail mechanisms, the need to facilitate upgrading in

tanning and leather manufacturing, and expanding Ethiopian markets. Rural tanneries are currently paying higher prices than export-oriented tanneries and the study suggested the need to reconsider pricing with respect to export orientation to make them more competitive. Furthermore, previous studies indicated that only 50% of the available sheep and goatskin in the country are collected due to the scattered nature of skin production suggesting the need to encourage cooperatives and private collectors/traders and training. The problem of illegal hides and skin trade to Somalia, Djibouti, and Kenya is also the other constraint, amounting to a loss of about 0.5 million per annum. The study suggested strategies for complementary activities to control skin disease.

In facilitating and upgrading tanning and leather manufacturing, it encourages institutional mechanisms emerging by way of;

- subcontracting and promoting investment in collaboration as joint venture, for example, Peacock Shoe Factory and an Italian Firm and Czech Republic design for sale to Germany (p.6)];
- improving processing capacity of tanneries, i.e., towards finished leather rather than being limited to wet-blue and pickle;
- conformity to environmental standards;
- facilitating access to finance for upgrading; and
- expanding international market for Ethiopian Leather products-expand existing markets and identify new, promote clustering (particularly commercial clustering vs geographical clustering which is already existing on Addis Ababa - Adama), support existing branding effort and promoting a unified Ethiopian Leather Sector are suggested.

A study by the World Bank (2005) revealed that lack of well functioning credit market, lack of efficient electricity generation and distribution system, transport and infrastructure and services problems, the lack of efficient backward integration and the lack of enabling, transparent, and consistent government regulations are the major obstacles hindering the growth of the leather sector.

Key cost drivers in the case of Nigeria in leather tanning sub-sector are shortage of H&S, due to competing demands from human consumption and poor animal husbandry practices. Moreover, in Nigeria poor skin quality, which is resulted from absence of enforcement of animal slaughtering procedures and standards, which drives up the defective rate, transport costs are additional constraints to improved competitiveness. Major source of improved efficiency could be realized through lower cost better quality and sufficient availability of primary inputs. Furthermore, the study in four sectors of Nigeria suggested that at macro level, stabilizing exchange rate, strengthening federal fiscal situation, and consolidating the financial sector are important measures to consider. In this experience, at micro level, protective schemes have proven unsuccessful in Nigeria (ibid.2005), mentioning the case of the useless Nigeria's Export Processing zones Authority's tax benefits form Shrimp and leather firms because of the lack of enforcement.

Similarly, in its recent study, the World Bank (2006) identified the constraints as follows:

- the leather sector- with low off take ratio in the 25.5million of total sheep population (40%) in Ethiopia, which is very low compared to Iran (87%) and china (71%);
- high wastage and damage of sheepskin in the supply chain;
- 8% pieces loss due to quality problem in slaughtering;
- 89.4% down graded to below grade-III due to quality;
- in process damage of 5%; preprocess rejection of 0.47% of the pieces;
- defects: putrefaction, ekek, scratches and scars, flay cuts and holes and poor substance;
- declining share of grade I-III from, and grade IV –V; and
- high opportunity cost of *ekek*[1].

[1] Ekek is typical skin disease and affects the quality of raw hides

In its estimation on the quantity and quantity of H&S sources, the Bank (2005):

depicted that 75% of the sheepskin comes from urban areas while the rest 26% is from rural farmers. In case of leather shoe- production:

- formal 3% and informal sector 65%;
- low capacity to respond to the international demand in terms of quantity and time;
- poor finishing due tom lack of skilled labour and technology;
- slow responsiveness to changing shoe models;
- high production costs;
- lack of marketing skills;
- high cost of raw material (80birr/pair; high wastage of material during cutting (15%);
- high cost of material for lasting and finishing (27% of the shoe manufacturing); and
- high assembly costs; and very low labour productivity China 20 pair/person/shift while 6.5 pair/person/shift for Ethiopia.

Encouraging the export of live animals suppress the export of live animals is one of the suggestions of this study. The study focused at firm/industry level and did not assess the problems with collectors at small/big town level. Moreover, it fails to identify the areas of PPP; and, the opportunity in the non-shoe leather products is unfocused. The prospects of specialization/cluster are also untouched.

A few studies attempted to indicate the performance and efficiency of selected tanneries in Ethiopia by using policy analysis matrix for seven sample tanneries 2002 and 2003 data[2]. Hawaz (2005) indicated that economic efficiency measure using Domestic Resource Cost (DRC) from the matrix ranges from –13.3 to –1.28. This shows that the tanneries are very inefficient partly due to policy and partly due to resource use. Nominal Protection Coefficients (policy indicator), ranging from 1.6 to 20.5, showing that the market price of output exceeds the social price and

[2] The standard conversion factor are taken from the one estimated by MEDaC in June 1998 in the National Economic Parameters and Conversion Factors for Ethiopia.

hence producers receive an equivalent output subsidy; and on tradable inputs, the study found that a firm is subsidized (NPI<1) while other six tanneries are taxed for purchasing tradable inputs (NPI>1). The other policy indicator, i.e., Effective Protection Coefficient (EPCs) show mixed outcome subsidy to production—Kombolcha and Modjo Tanneries— and taxed—Dire Tannery— while most of the other tanneries receive exceptionally large positive protection. This indicates the need for restructuring their production system, to finish some of the semi-processed products and to reduce inefficiency, and improve capacity utilization along cost-effective schemes. In the current study, however, looking in to the distortions is not considered in the objective, but referred here for its informative value on the production side of the tanneries.

In December 2007, USAID implemented a project by the economic competitiveness group studied and summarized the challenges, business opportunities, business re-engineering, and the way forward for the Ethiopian Leather Industry's cluster development agenda. Here, the team introduced the cluster of ELI, comprising the Ethiopian Leather Good Factories, tanneries, hides and skin traders, abattoirs, slaughterhouses, farmers, animal breeders, and the economic foundations, i.e., training-human resource, finance—the banks, government agencies and infrastructure and services. It is found that 80% of the defects on raw hides and skin is at the level of breeding animals (50% defects) and traditional slaughtering (30% defects). Indeed, the World Bank (2006) VCA for sheepskin-footwear alone estimated that the after process defects are only 5%. Moreover, the USAID study found that the private sector and the public sector have some serious differences in how they view the industry's problems (in issues related to access to technology, the industry investment climate and access to finance), which is very important finding. Weak linkages in the value chain-cluster development, lack of collaboration between firms, little externality, weak support to hides and skin and leather industry (chemical industry, lack of strong H&S collection), human resource problem at both technicalities and the management level, input and output market prices, technology adoption

constraints, weak private sector and investment climate, and finance problems-particularly working capital.

UNCTAD (2002) in its comprehensive assessment on sectors development of Ethiopia by, in the review of Investment and Innovation Policy, revealed the importance of the leather Sector. The findings clearly indicated the need to understand global markets as the market for leather goods are increasingly fragmented because of more variety and unique lifestyle-related products. Diversified products development respond to consumers demand for various sports, leisure and safety products, which requires design skills, knowledge and technology and special distribution channels are emerging. Moreover, the increasingly flexible specialization modes of production- shorter fashion and business cycles, overcoming the adversity from leather substitutes, meeting tighter delivery schedules and shorter production runs, reducing costs and risks of maintaining inventory, etc are necessary to cope with rapidly changing market requirements, and these have to be reflected in building a dynamic leather sector. In describing the value chain of the sub-sector, in the Ethiopian livestock base, due to the extensive collectors and subagents of leather, which is unaffected by government intervention, collects 90% of the sheepskins and 60-70% of the goat skin. In the review, it is acknowledged that 90% of the sheep and goatskins and 705 of the hides originate from the farmers, suggesting an important policy implication of where to focus to improve H&S quality. UNCTAD estimated about 70% of the hides and 90% of the skins originated from rural areas and there is a need to consider rural hides and skin supply as important area of intervention (p.72).

The UNCTAD (2002) found recent improvement in quality from 40:50:10 grade mix for 1:2:3 respectively to 70:20:20, which requires a monitoring for improvement, due to the steady rise in the number of slaughter houses, the establishment of drying sheds and the rise in the number of farmers' producers cooperatives in the production and marketing of H&S. In relation to this, the study added lack of reliable information on livestock upon which reliable sector policy guidelines and

investment decisions can be made. This implies what kind, quality, and quantity of hides and skin is available in the country is important in this line.

The under capacity performance of the tanning sector is a major problem in the tanning sector. However, the availability of effluent treatment in most of the tanneries is encouraging. In the chain, the limited number of the footwear and leather products sub sector restricted value addition to the high quality Ethiopian finished leather. UNCTAD (2002) remarked the beginning of diversification of shoe components and auxiliaries as encouraging- mentioning there are five sole and four lace-manufacturing enterprises at the time, at least two of them capable of competing at international and regional level. UNCTAD 2002 indicated policies at raw material level-prevention of livestock disease such as *ekek*, training on appropriate method of slaughtering augmented by policies dealing with product standard and grades, prices, etc and in production, which ensures competitiveness. The financial problems, innovation related problems, which are linked to production, process control, and layout and excess capacity, lack of R&D despite some product development activities, lack of the role of quality standard maintaining institutions and lack of awareness at different levels are mentioned important based on surveys to tanneries, foot wear and leather products manufactories. UNCTAD 2002 reviewed the support system for investment and innovation such as MOARD, MOTI, ETA, QSCE, PIC, and LLPIDI, their the problems, for example, poor facilities, lack of specific skills, weak horizontal linkages, and the need for coordination and integration of each of these institutions. To this end, effective implementation and interventions requireto cover the following areas:

- policies and support systems in the sector in an integrated manner and ensure that improvements in quality and productivity take place across the industry's value chain. There is a tendency, at present, for policies and incentive structures to focus on leather products manufacturing in the hope that this will improve export

performance. It should be noted, however, that higher value products can be manufactured only if the raw material used is of higher quality; and

- enterprises in the sector need be encouraged to build innovative capability, which is now essential for competitiveness. The more innovative and dynamic the sector, the more likely to attract FDI and potential foreign partners. The schematic mapping of the various actors in the value chain for upgrading of Tanneries were given in Fig.1.

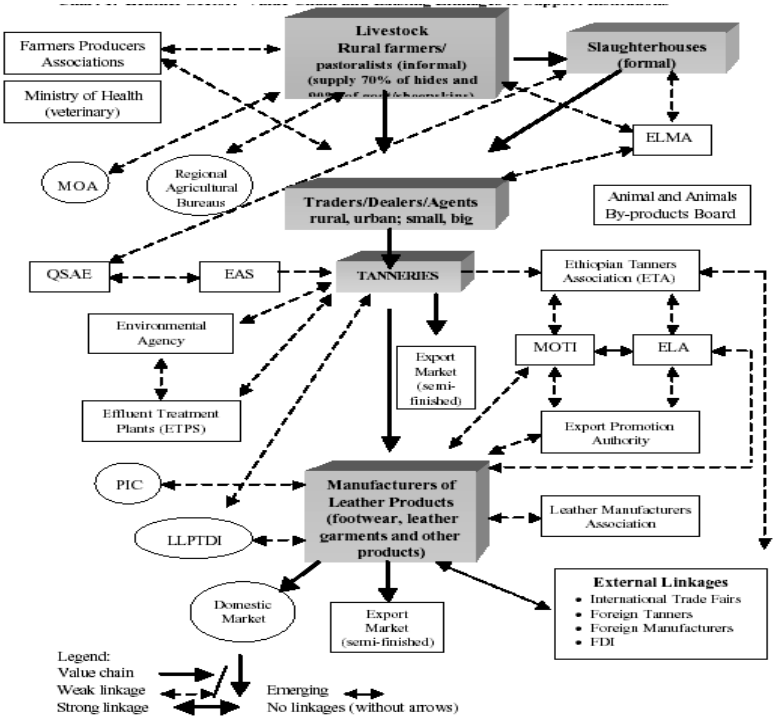



Fig 1. Leather Sector: value chain and existing linkages (Source: UNCTAD, 2002)

# 3. Value Chain Analysis for the Livestock Sub-sector

## 3.1. Livestock, off-takes and tanneries processing

The estimated off-take rate for sheep in Ethiopia is 40%; while it is 33%, which is very low by the standards of developing countries like Iran and China (World Bank, 2005). UNCTAD 2002 also estimated the off-take rate for goats and cattle, which is 37% and 6.5% respectively. Taking the World Bank estimation for sheep off-take rate and that of UNCTAD of 37% and 6.5% for goat and cattle, respectively, the country has a total of 10.2 million raw sheepskins, 8.7million raw goatskins and 2.7million hides taken-off annualy. However, the existing tanneries process 20.4million (100%) and 1.06 million hides (39%)[10]. The estimate for skin may not realistic; as there are huge amount, in both rural and urban areas that are left uncollected, damaged, or locally used as a mattress. As a result, most of the tanneries are constrained by shortages of skins rather than lack of market for the processed skin at any level.

The pastoral areas are home for 40 % of the cattle, 75 % of goats, 25 % of sheep, 20 % of equines and nearly all of the camels. About 20 % of the draft oxen in the highlands and 90 % of the grade cattle and sheep for export come from the pastoral regions. Veterinary services and animal nutrition are limited in these areas; often affected by climate change.

Although there are over 90 slaughterhouses, slaughtering of livestock takes place mostly in villages. Abattoir slaughtering is significant only in the bigger towns. The off-take kill rates for Africa are estimated at approximately 17% for cattle, 22% for sheep, and 25% for goats. It is

[10] In estimating off take rates, there seems to be underestimation, judging from the figure that 100% of the off-take is used for processing.

estimated that Ethiopia's off-take/kill rates are lower for cattle but higher for sheep and goats; with 6% for cattle, 33% for sheep, and 37% for goats. Estimates place the off-take rate for H&S production at approximately 2 million cattle hides, 8 million sheepskins, and 7 million goatskins per annum. The off-take rate is often seasonal depending on such circumstances and events of major holidays, fasting seasons, new years, and other occasions (Gezahegn et al, 2006).

From the total off-take, the proportion of processed hide is about 40%, which is very low. In general, this sector requires a special attention by way of improving the quality of H&S. In rural areas, even though the off-take rate is substantial, farmers use hides for different purposes such as sleeping mat and a bag for grain transportation.

Assuming that the age of the leather on use in the farmers' house is five years, and the opportunity cost of the hide in the five year period is birr 20.00 (=USD 2.27), we can say that the country loses close to birr 19,052,643,750.00 or USD 3,810,528,750.00 per annum, excluding the costs of labor and capital in the firm. This is very likely to happen when one observes the volume of finished hides in the Ethiopian tannery, which is quiet a significant loss to the economy.

On the other hand taking into consideration, the unprocessed skin left in farmers house, total value of shoes at an average price of birr 35 USD, of which, the leather input is USD 25.00= 2,035,446,429.00 USD in four years time and, nearly USD 510 million per annum. Together with the hides, the country loses raw hides and skin worth of USD 4.3 billion annually for the lack of collection of raw H&S and lack of specialization[23] in the footwear and gloves, to which the Ethiopian H&S are not optimally exploited.

[23] The case of lack specialization indeed requires estimating the wet blue, pickle and finished leather stages where we have to estimate the gap in selling highest quality shoe, glove, etc.

This is an indication of total value of skin that Ethiopia loses in five years from the skin left in the farmers' house for home use/unsold to the collectors in four years time, assuming that the skin stays as complementary in the household.

At the stage of quality of H&S, there are many problems associated with it. These include breeding, ranching, slaughtering, and storing stages of H&S. The case of the skin disease, *ekek*, the holes carelessly made on the surface of the skin, putrefactions are the major physical problems (World Bank, 2005; UNCTAD, 2002). The World Bank estimates the loss in the number of pieces at national level due to quality problem at 5.5%.

## 3.2. Collection of raw hide and skin

The collectors of raw H&S are available in almost all towns of Ethiopia. At least one businessperson is found in the smallest town. Some of them have other sideline business such as butchery, retail trade, and brokerage. They collect H&S from both rural—through rural agents or through farmer's carriage to market—and urban areas—through intermediary collectors or themselves. Many of them are in deed long age experience starting from the time of Armens, with the majority of them starting the business in the 1960s. With this practice, Tannery enterprise has gone long experience in the country. In the following section, our focus group discussion focuses on collection centers and discussion heldodjo and in Arbaminch.

### 3.1.1. Modjo collection center

The leather cluster town of Modjo is found on a 60 km from Addis Abeba. We discussed on the raw leather collection business in this town with one of the collectors who is engaged in this business since 1995, and is among the two local suppliers and one major buyer in Modjo. He was delivering the raw hides and skin he collected to another big local collector in the past, but now he him self is a big local collector and he is

supplying to major collectors in Addis Abeba. The buying /collecting process of the collector is undertaken in three ways:

- collecting by him from butcheries, hotels, etc;
- rreceiving from small individual collectors in Modjo; and
- buying from rural people either directly or from some small towns around Modjo such as Dhankaka, etc.

The buying activity is daily from the above-mentioned sources and weekly –during the market days. The rawhide and skin collected in this way is stored in an iron sheet-roofed storage.

The purchasing price of sheepskin in Modjo in December 2006 was 25-30 (average 28) birr for sheepskin, 15 for goatskin and 2.5-3.0 birr per kilogram for hide. There are no price differentiations unless the skin is extra small. One important problem mentioned by the collector is that there is the falling tendency in the supply of skin and hides from rural areas. According to this collector, the cause of this is the rising livestock price, which increases farmers income and farmers prefer to sell the animal alive rather slaughtering it for home consumption, which brings fierce competition between collectors. This has an implication that the number of livestock coming to the butchery, slaughtering houses in towns is rising and the point of attention in the supply chain comes to be the slaughtering houses. The income distribution in the chain can shift from local collectors to the slaughtering houses, modern abattoirs, butcheries, hotels, etc. The interviewed collector in Modjo also remarked that in the past he was collecting 20-30 skins, while these days he is collecting 30 skins weekly, mainly due to the declining trend of supply from rural sources. Taxes are collected on sales by the Regional Revenue Bureau and the Municipality. The collector also commented on the quality problem of the skins. The firm faces problem is that the farmers usually do not spread salt in to the surface of the skin, therefore spoilage of the skin occurs often occurs easily. Farmers or producers were not very well

oriented as there is a very weak linkage on the extension services for quality inspection between the farmers and development agents.

### 3.1.2. Modern abattoir

Following the economic liberalization of 1992, investors are emerging in abattoir development. To this effect, there are two abattoirs and exporters of meat in Modjo, which we have made a rapid assessment for the value chain analysis. They are the Luna Abattoir and the Modern Abattoir. In this study, we discussed the collection of H&S with the representative of Modern Abattoir, which was established in 1993. Over 80% of its output is mutton from goat while the 10-15% is from sheep. More than 70% of the goat and sheep purchased from local markets to be slaughtered for export are between 5 and 8kg of weight. The small size is due to the demand that is based on the fatless mutton of the customers in United Arab Emirates. A leather sector technically experienced shortage of supply on raw H&S as kid goats and sheep are prefered for meat export would result in a decrease of sheep and goat population. This calls for the need to consider large-scale livestock production systems to to be ale to boost and sustain the leather sector.

In one of the Modern Abatoirs—Kolbo Tannery—there is an incentive mechanisms established for slaughtering laborers in hides and skin quality management of the firm. In case of managing the rawhide and skin, if torn during slaughtering, the factory slices off the salary of the personnel at payroll. Modern Abattoir sells the hides and skin, if any, on auction in the past, while recently it is purchasing as it has established a sister company-Kolbo Tannery.

### 3.1.3 Arbaminch collector

The collector in Arbamich is uniquely situated in the collection center for hides and skin. One of the Arbaminch collector is experienced in the leather business since 1973 and came to Arbaminch from Addis Abeba in 1984. He knows the leather sector well and that he was a collector of raw

hides for Addis Tannery. The collector as key informant indicated that the problem with quality is not only one of slaughtering and handling, but also the very natural environmental degradation resulted in declining grazing land and this has decreased the quality of the H&S. He also indicated that where it used to be good feed source from pasture and the rangeland environment was high yielding, H&S collection was sufficient. Accordingly, he was able to collect and deliver 3000-4000 pieces of H&S. However, these days, it takes him 2.5 months to deliver 3000-4000 pieces. This is mainly due to competition, the illegal movement of raw H&S, and illegal cattle trade to neighbourghing countries. With respect to this particular issue, he elaborated that:

- in the past/ during the Derg and the empror law restricted moving raw H&S beyond 5km out of a town, in the hands-off illegal person, and this was being implemented by police/control on the ground; and
- pouring in to water for traditional tanning of hides and skin, and a person who is committing this illegal activity is penalized up to birr 150 at the time.

There is no such a kind of control of hides and skin illegal trade these days, and one major problem with the collection hides and skin in Arbaminch today is collecting hides and skin by illegal individuals, packed with sacks and delivering it to big collectors found in Hawasa, Wolayita and transporting it to other remote areas. This has the following disadvantages

- decreases the income of taxpayers;
- out competes taxpayers; and
- harms the quality as there is mishandling (in collection and storing) happens in untrained illegal collectors.

The key respondent indicated that there is a generally a tendency to decline in the quality of hides.

At the time of interview, i.e., March 2007, the price in Arbaminch was:

- Hide 40 birr on average
- Sheep skin 28 birr
- Goat skins 19/18 birr per piece.

The purchase from abattoir is made on auction basis. Butchers, on the other hand slaughter usually at their yards and send it illegally to their customers in big cities mentioned above.

### 3.1.4. Big collectors

In the supply chain, next to the farmers are the collectors; the suppliers of hides and skin-who are mainly concentrated in Addis Abeba, and the tanneries.

In this regard, the data collected from the three different firms revealed that 1 to 3 better quality raw H&S, which is detected by skilled selectors in each factory is 35%; Most of the selectors blame that as high as 1 to 3 quality skin goes to 70% in the past, while these days it has declined so much. In this way, the Gojam skin is the best quality skin with more of 1 to 3 ranking, with much of its proportion of best quality, and they said they fall under fierce competition to secure the Gojam one.

### 3.1.5. Tanneries

The tanneries receiving raw H&S are often complaining the decline in the quality and quantity from time to time. The interview from Hora, Shoa, and Ethiopia Tanneries indicated that after 1983 the supply of 1-3 grade rawhides and skin has sharply declined. The discussion in Ethiopia Tannery indicated that this is from 60% in the pack of skins was first grade before 1983, declined to 25% currently. This is consistent with the the Arbaminch collectors. The percentage of highest-grade skins from grade 1-3 is very low in a randomly packed H&S on its arrival to the tannery. Collectors and tanneries mainly complain on the weak activities of the MOARD in controlling the quality.

A well-experienced production manager in Ethiopia Tannery indicated that the damage due to *ekek* could be simply controlled and minimized by applying appropriate drug at a cost of only 5 birr per animal. This also results in a complementary gain of more than 10 kg of flesh weight per animal, which exceeds the cost of the drug by manyfolds. This situation infors that a genuine role to be played by public private partnership, donors, and NGOs. The alarmingly riseing trend in price of raw H&S from time to time is a major concern for the tanneries. Most importantly, the rise in price of raw hides and skin creates financial constraints to the tanneries, which requires the systematic and smooth collaboration of the banks and other similar financial institutions in place. Some of the tanneries deal for short-term credit with banks during holidays where there is peak supply of raw H&S. Data on the price of raw H&S against the price of output was obtained from finance department of Ethiopian Tannery are summarized in Table 1.

Table1. Comparison of purchasing price of skin and hide of Ethiopia Tannery (unit price in birr)

| Year | Raw sheep skin | Raw goat skin | Raw hide |
|---|---|---|---|
| 1996/97 | 15.4411 | 11.8143 | 30.7226 |
| 1997/98 | 22.5161 | 14.2519 | 27.9901 |
| 1998/99 | 11.1996 | 3.2258 | 24.5614 |
| 1999/00 | 17.2922 | 6.2268 | 24.4376 |
| 2000/01 | 33.9891 | 8.6776 | 41.4027 |
| 2001/02 | 33.2226 | 13.3441 | 38.2888 |
| 2002/03 | 31.5427 | 15.4396 | 28.9321 |
| 2003/04 | 26.4543 | 12.4516 | 29.7496 |
| 2004/05 | 35.9897 | 13.8714 | 41.5406 |
| 2005/06 | 31.8889 | 16.8068 | 49.5938 |

From the figure, we can observe that the trend in the prices of the three kinds of raw materials shows a continuous rise over time, with stronger trend in sheepskin and hide. This shows the need for strong capital and maintenance of the financial capacity for quality raw material purchase, without compromising the international completions. It was revealed that the contribution margin in the price of the respective outputs of sheep/goat skin output is as such not increasing, which implies a continuous fall in return- immeserizing growth. This is also interesting compared to the price of leather articles in the world market.

## 3.3. Processing technology

Most of the tanneries use similar machine technology, until pickle and wet blue stage. The difference in the two private firms and the public firm in this regard is that the private ones major output is pickle and wetblue while the public one goes to crust and finished leather. Asked on why they stop at this level the private ones responded on the financial constraint to buy the proceeding machines, which have uses in crust preparation. The common machines are the drum machines. Regarding chemical inputs, the tanneries use many chemicals, despite the lack of

survey on the particular types of chemicals each of them requiring and using.

Based on the information from Shoa and Ethiopia Tanneries the steps in the tanning process of raw hides and skin involve about 10 major chemical gropus involving chromes, sodium sulfide, sulfuric acid, sodium caliphate, sintan, fat lickers, dyesters, binders, lakers and preservatives. Overall, it takes 36-48 hours to change a rawhide and skin to pressed/ironed finished leather, as there are a lot of working processes.

The tanning process begins with selection, trimming, i.e., removing the extra part of the skin and soaking. The soaking process her is a means to remove the salt and weighing agents mainly the removing the hair from the sheepskin. This soaking involves the use of chemicals such as lime and much water, and the use of big machine drums[25] and stays 18 hours. Immediately, painting a chemical solution to remove the hair is undertaken. Again, liming or dermis removing is also done by using chemicals in 4-16 hours period; the process of removing dermis and flesh in the inner part of the skin/hide is includes the use of fleshing machine.

The next spet is washing the lime used to remove the hair from the raw H&S in the drum machine. In this process, the acid and other chemicals used for cleaning are also removed. The measurement for determining the removal of acid is at $P^H$ level from 13-12.5 to 8-8.5. The existing drums capacity is 3000-4000 kg of H&S at a time. The next step, which is betting, is now a process of increasing the elasticity of the leather by using enzymatic chemicals, which again is undertaking while the leather is in the drum machine.

A sub-final step is pickling. Pickling is mainly a preservation activity of the processed hide and skin; it is increasing acid capacity for preservation from 1.2 to 1.0 level of $P^H$. Note that goatskin is less costly in tanning as

[25] Shoa and Hora tanneries rent or use other drums for processing hides, unlike Ethiopia Tannery, as it requires a different drum machine.

it has shorter hair. In the process of tanning, to change the nature of the natural leather, chrome is used in tanning, with a heat energy that withstands up to 95$^{o}$C hot water. Again, fungicide is added for preservation.

In the above tanning process up to pickling, the Shoa Tannery uses recipes of manual recording. According to an expert in production department, costs are minimized by saving chemical usage, and using water treatment and reusing it. The major cost is the cost of raw H&S and minimizing the cost is challenging.

One improvement in relation to the chemical input is previously for a long time the major portion of the capital of the factory was tied up with the cost of chemicals; however, currently many local suppliers of chemicals entering the market. In case of Hora Tannery, the relation of the factory's finance with the cost of chemicals is a major problem. The factory purchases chemicals for one year, but most of its working capital remains. The manager of the Hora Tannery indicated that absebce of clustering for the leather sector tied up much of his capital. Obviously, Ethiopia leather industry requires more work for industrial clustering.

The process after pickling, in Shoa Tannery, is selection and packing. It involves, draining in batch, then trimming, and then giving standards based on the quality of the pickled skin and the size. The price setting also depends on the grading of standards and packing made in this department.The international standard packing process depends on the quality and size combination (Table 2). The quality is made with relatively well-qualified pair of workers in the factory, who can identify the quality, do the selection and standardizing processing. They can select between 2000 and 1500 pieces in a day. This is followed by a careful process of storage by grade. There is a 1 to 7 level of grade. Most of them are targeted to export market to China. As we observed in the production department of the Shoa Tannery, on the wide floor of the factory, all grades are packed and ready for sale and buyers collect the pickle. This

shows that other factories that can further process this semi-processed skin can immediately deliver and process it to the finished leather level rather than establishing a new pickle-processing factory.

The pickle together with chemical processing, which brings the wet blue skin makes the pickle durable, heat-resistant, maintains size and structure, etc. This skin has now lost its natural quality and has artificial quality, which indeed requires further processing.

Table 2. Size and quality based packing/ pricing of pickled leather

| Pricing pickled leather | | Size | | | | |
|---|---|---|---|---|---|---|
| | | Extra large | Large | Medium | Small | Extra small |
| Quality | Good | Highest price | | Average price | | |
| | Bad | | | | | |
| | Worst | | | | | Least price |

*Source: Shao Tannery*

Some of the respondents from Ethiopia Tannery and Shoa indicated that productivity in the factory, influenced by level of income, nutrition, status and the culture. The process of preparing the wet blue involves dying the pickled goatskin with chrome, which changes the surface of the skin in to blue.

The next stage in the process after pickled leather is the repickling stage, which is a production process available in Ethiopia Tannery, unlike the case of Shoa and Hora tanneries. There is some clear indication that the profitability of leather increases as we move from Pickle to finished leather. One reason for this is that chemical use declines with quality tiers of production.

The retaining process is a process found in Ethiopia Tannery. In this process, the wet blue gains artificial fats to make the leather flexible. This includes dying, fat lacquering leading to soft leather.

The next stage is crust preparation: which includes drying and softening, ironing, which uses both vacuum drier (less costly) and heat drier (high costly) and ironing machine.

After the drying process, the finishing process includes dying with colors of different kinds. After this process, packing the finished leather—based on quality and sizing follow. Sizing, measuring, and packing are performed manually.

The major problem with processing and production is the shortage of raw material input/ raw hides and skin collection and its quality. Some of the supply has seasonal nature in that during fasting and festivals seasons the supply variability is too huge. Some of the tanneries have a good network and experience as they were engaged mainly in collecting hides and skin before they move into tannery industry. The network goes from rural markets to primary producers in the farms or villages. However, it is difficult to know how this network works and the link to the factory operates.

The Ethiopian tanneries have both hides and skin finished leather outputs. To say the least, it is highly impressive as to the quality and level of output on the one hand, and low performance for lack of value addition on the other. The output of both finished H&S looks like beautifully finished leather. Further value addition in to leather garments, shoes, gloves, etc is burning issue- more economical than exporting finished leather of this extraordinary quality. Even more interesting is that if measured technicality, we can say that the most costly part of the shoes or leather garments is completed in Ethiopia. The less costly, which contains major with high value addition potential is exported, which is a big loss due to the lack of skilled labor, technology, and institution. Ethiopia has better pay to fill these gaps and specialize in this area to boost the return. Otherwise, substantive growth is already there, which requires further study.

## 3.4 Value chain in wet blue and finished leather

The estimation of the values additions at each stage is based on the 2005/06 data from the Ethiopian Tannery, which is reasonably representative for other tanneries. Ethiopia Tannery is located some 75km from Addis Abebatowards southeast. It is the biggest tannery producing pickle to finished leather and exporting 80% of its output. The outputs of the factory include crust, wet-blue, pickle and finished leather. The importing foreign firms of these outputs use them for sheepskin garments; hide garments, shoe uppers, and lining leather. In 2005/06, 50% of its output was crust leather, i.e., ready to finish leather, while wet-blue and pickle comprised the rest 50%. Ethiopian Tannery had a total domestic sale of 16% and exported 84% in 2005/06.

The value chains for tanning can be seen in an integrated manner in the process of production and marketing; with little innovation of design inputs. Howver, to provide a full picture of the value additions in each steps, in this section, attempted were made to include the values and extend until shoe making for both domestic and export market. Practically speaking this includes the share of the farmer/producer or the urban dwellers that slaughter sheep and goat, followed by local and big collectors, raw H&S warehouses, transporters, tanneries, and shoes and garment makers.

The schematic value additions in each step linked as follows

### 3.4.1. Sheepskin chain

The value chain for shipskin includes farmers→local collectors→urban collectors→transporters→ tanneries→shoemakers/ leather garments→exporters

| | |
|---|---|
| Average Modjo price of a sheep in December 2006: | birr300.00 |
| Local small collectors: buy the raw skin for an average of | birr 28.00 |
| Urban Collectors: buy the raw skin for an average of | birr 30.00 |

| | |
|---|---|
| Transporters[56]: To Modjo/Addis Abeba: at an average price of | birr 1.50 per piece of skin |
| Warehouses storage at an average of skin per month; however the storages get empty as there is high demand and under capacity operations. | birr 6.00 per piece of |
| Tanneries: deliver at an average of | birr 33.65 |
| Average domestic selling price of piece of finished leather | birr58.00 |
| Purchasing price of shoemakers | birr 55.00 |
| Purchasing price of garments | birr 61.00 |
| Other costs: labour | 12-13% |
| Tax: | birr 15.00 |
| Other costs: | 10% |
| The selling price of leather garments-leather jacket (TZ Leather Articles): in # of pieces: | |
| ○ Domestic: average | birr 875.00 (including VAT) |
| ○ Foreign: Jacket: Ethiopia's (ELICO): | USD87 |
| Max UK market: | USD 190 |
| ○ Goat skin glove: | USD8.50-13.00 |
| Different standards: | USD 20-125 to 140-260 USD |

According to the response of a leather garment factory, on average it takes 6.5 pieces of finished skin leather to produce an average sized jacket (Table 3), and it takes 1.5- 2.0 pieces of hide to produce a similar jacket, and 0·80 – 0·95m² (8 – 9ft²) with a substance of 0·4mm per glove.

This implies 6.5 pieces: 31.46 $ft^2$ skin to make an average sized leather jacket. When the tanneries directly buy the skin through their agents located in different small and big towns, they buy the hides and skins at a cost of birr 32.00- 35.00; this gives them the opportunity to collect more skin and hide, despite lower comparative advantage.

[56] The vehicles transporting raw H&S are smaller than the usual ISUZU trucks with a loading capacity of 2.5 –3.5 tones.

Table3. Quantity of skin and hide required to make an average sized jacket is on average (in $ft^2$)

| Unit | Skin | | | Hide | | |
|---|---|---|---|---|---|---|
| | Minimum | Average | Maximum | Minimum | Average | Maximum |
| Square feet | 35.00 | 38.60 | 42.20 | 35.00 | 38.37 | 41.74 |
| Pieces | 7.23 | 7.98 | 8.72 | 1.55 | 1.70 | 1.85 |
| Price (birr) | 520.80 | 574.37 | 627.94 | 310.10 | 339.96 | 369.82 |

### 3.4.2. Goatskin chain

The value chain for goatskin includes farmers→local small collectors→urban collectors→transporters→ tanneries→shoemakers/ leather garments →exporters

Average Modjo price of a sheep in December 2006: 350.00 birr
Local small collectors: buy the raw skin for an average of birr 28.00
Urban Collectors: buy the raw skin for an average of birr 30.00
Transporters: to Modjo Addis Abeba, at an average price of birr 1.50 per piece of skin
Warehouses storage at an average of birr 1.00 per piece of skin
Tanneries: deliver at an average of birr 33.65
Average domestic selling price of piece of finished leather birr 58.00
Purchasing price of shoemakers birr 55.00
Purchasing price of garments birr 61.00
Selling price of leather garments-leather jacket (TZ leather articles) in # of pieces:
Tanneries: deliver at an average of birr 16.8 pre square feet

- domestic: Jacket birr 875.00 (including VAT)
- Foreign: Jacket:
- Ethiopia's (ELICO): USD 87 (web)
- Max UK market USD 190
- Goatskin glove USD 8.50-13.00
- Different standards USD 20-125 to 140-260 USD highest quality

### 3.4.3. Hides chain

The value chain for hides is farmers→local small collectors→urban collectors→transporters→ tanneries→shoemakers/ leather garments →exporters

| | |
|---|---|
| Average Addis Abeba/Modjo price of a fattened ox in December 2006 | birr 2500.00 |
| Local small collectors: buy the raw skin for an average of | birr 2.00 per kg: 35.00 |
| Urban collectors: buy the raw skin for an average of | birr 35.00 |
| Transporters[45]: to Modjo/Addis Abeba at an average price of | birr 0.15cents/q/km |
| per piece of skin, or on average | birr 0.0375/piece/km |
| Tanneries: buy at an average of | birr 49.60 (from the collectors) |
| Tanneries: deliver at an average of | birr 17.00 per square feet |
| Average domestic selling price of piece of finished leather | birr 58.00 |
| Purchasing price of shoemakers | birr 55.00 |
| Purchasing price of garments | **61.00** |
| Selling Price of Leather Garments-leather jacket (TZ Leather Articles) in a # of pieces: | |
| ○ Domestic dhoe | birr **110-220** (ASF) |
| ○ Domestic Jacket: average | birr **825.00** (TZ); |
| ○ Foreign: Ethiopia's (ELICO): | |
| ▪ Max: | USD 120-160 |
| ▪ 87 USD (web); Max UK market | USD 190 (Jacket) |

## 3.5. Technology constraints

According to ASF, shortage of stretching machine and shoesoles of required quality are the two major technology constraints in shoemaking. Anbessa Shoe Factory owns an old stretching machine, while its sole technology is restricted to PBC soles, which are mainly strong plastic material. We can compare this with the different kinds of shoesole

[45] In case of hides, the collection from Addis Abeba and Modjo is highest, as cattle for slaughtering comes to Addis Abeba market. For domestic transportation of freight, we took an average of 0.20 birr/q/km.

technologies we observed. The time and cost structure of the sheep and goatskin made jackets and shoes are presented in Figures 2a-d.

Figure 2a. Sheep skin leather jacket for domestic market

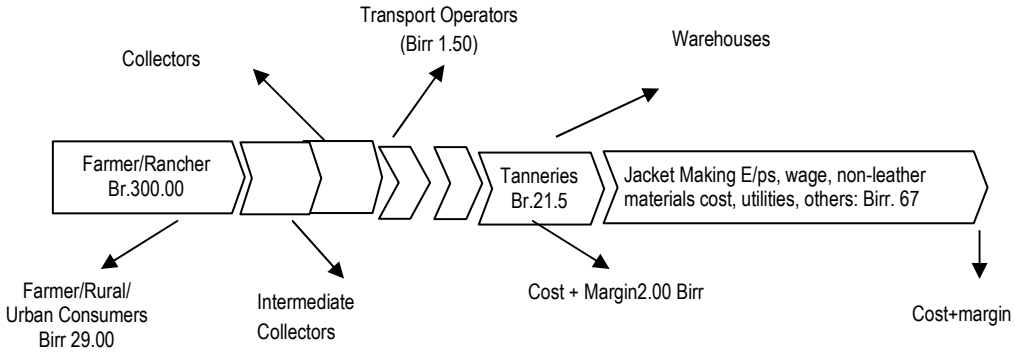



Figure 2b. Sheep skin leather shoe for domestic market

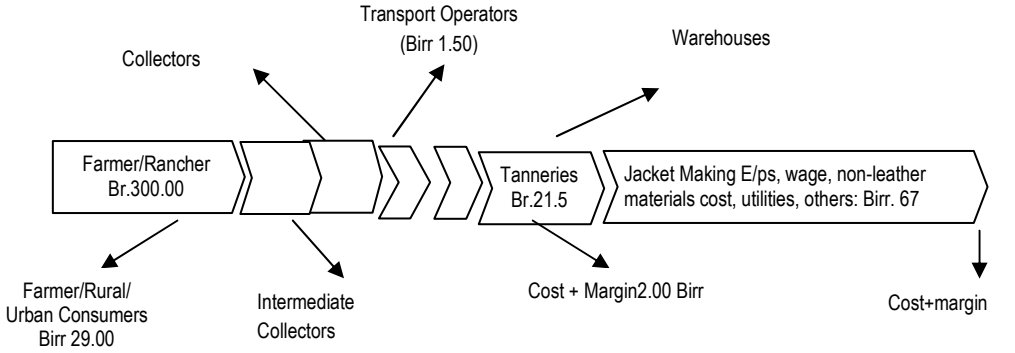


Figure 2c. Hide leather jacket for domestic market (2 pieces or average 38.5 ft$^2$: 1 leather jacket)

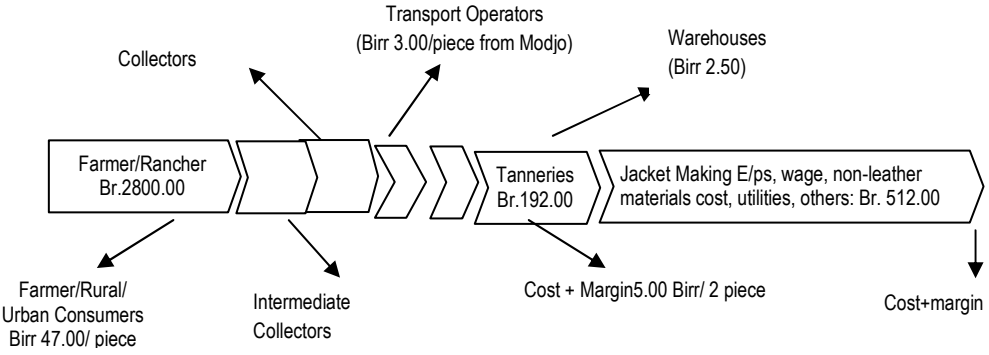
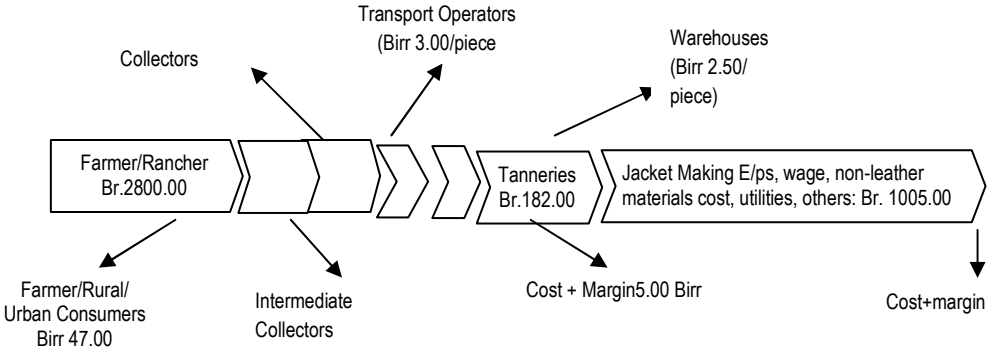



Figure 2d. Hide leather shoe[22] for domestic market




The above four figures depict the cost structure and value additions of sheepskin and hides in the chain of making average size jackets and shoes as a final product.

In Figure-2a, based on the data we collected from each actor, we estimated the share of the raw hides and skin intermediate collectors, the tanneries, the transport operators and leather jacket and shoemakers. It shows that, in the value chain the share of the tanneries is relatively lower than that of the jacket and shoes.

[22] They make an average of eight pairs of shoes out of an average piece of hide.

Two sources of data were used to map out the value chain for shoemakers Anbessa Shoe factory, while for the leather jacket is that of Temesgen Zewde Leather Articles Enterprise.

The gtrades for finished leather varies from 1 to 7. The major inputs used for jacket are finished leather of grade 1 to 3.as major source the input being Ethiopia Tannery. An average size jacket requires 35-42ft$^2$ of finished leather. The enterprise purchases inputs from the factory and transport and other costs are insignificant, as the supplier can bring it easily to Addis Abeba. In fact, it would be interesting if we can measure the time, it takes to bring from Modjo, and the transport cost, while it is possible to reduce this cost if there is cluster arrangement in the leather and leather products producing factories. This is similar in the case of Blue Nile shoe raw material supply, where the factory purchases its inputs from the same factory, and other similar factories.

The cost structure of the leather jacket producing enterprise is estimated at 76-78% finished leather input, 12-13% labor cost, 7-8% other costs and 5% is cost of depreciation. The jacket producing enterprise uses both finished hides and skin. There is small price difference between the sheepskin made (800-950 birr) and hide made (700-850 birr) jacket. The products category varies from sheepskin, hide, and goatskin jackets in order of price from cheep to expensive. The rising prices of raw material and labor are major constraints.

The interviewee has not yet exported jackets or but bags to inform to us on export price. However, the information from ELICO website indicated that the average price of an averaged sized jacket is USD 90-95, which is 800 to 850 birr, with no VAT[57]. The owner indicated obviously they lack the capacity in terms of product quality, fashion, etc to compete in international market. As a result, the country loses a big opportunity cost of earning foreign currency from higher value addition.

[57] The current exportable manufactured goods are tax free

In terms of prices, the international prices of leather jacket vary from region to region. For instance, the Leather BizRate's free Comparison-shopping in USA has men's leather jackets prices ranging from USD 25.77 to USD 629.00 (120 different designs and sizes of men's jacket); and there is an extraordinary Men's Brown Leather Bomber Jacket, with a detachable mahogany costing 1530 USD (web-source). The price also varies for women Jacket. This indicates that perhaps Ethiopian leather industry enjoy improving the level of value additions thereby employing the standards technology and quality.

Relatively backward technologies are employed and the leather jacket output is labor intensive. They use simple machines to prepare a leather jacket rather than modern machinery. Productivity is also equally low. It is obvious that the Ethiopian leather industries are not ripping the optimum scale of benefits to the frontier. From experience, the Indian entrepreneurs produce leather quality, which responds to the income/ demand of consumers even from low quality leather to sell at low price to even low income people. They are even importing from Ethiopia the lowest quality of leather to meet their consumers demand. While in the case of Ethiopia, only high price leather jackets are produced where only high/medium income people can access, due to the constraint of diversification of product lines with modern technology in place.

In the case of Anbessa Shoe Factory, the source of finished leather input is Ethiopia, Awash, Modjo, and Addis Abeba Tanneries, with the Ethiopian Tannery having the largest share. In the case of shoe making, the grades of the finished leather used vary from $1^{st}$ to $3^{rd}$, where price ranges from 6 to 12.5/ $ft^2$. On average 2-3$ft^2$ of finished leather is used to make a pair of shoe. The chemical used in this case is dying. The information collected shows that the sole that the factory uses for shoe making costs 22% of the factory cost. The major technology for shoe making is the sole technology and the soles, which claim the highest share in the price category of shoe than the finished leather itself. The type of material used for sole making in this factory for 75% of the shoe

production is PBC. The average selling price of shoes is 125 birr. From our assessment, we understand that the major constraint in this leather sub sector is the stagnant sole technology. Similarly, the constraints in shoemaking, folding, and stretching machine are also very important. It is using a machine that the factory imported in the 1980s which is outmoded today, and makes it incompetent in international market. Moreover, the recent exports of the shoes made by this factory are using the imported soles in contractual agreement with an Italian firm.

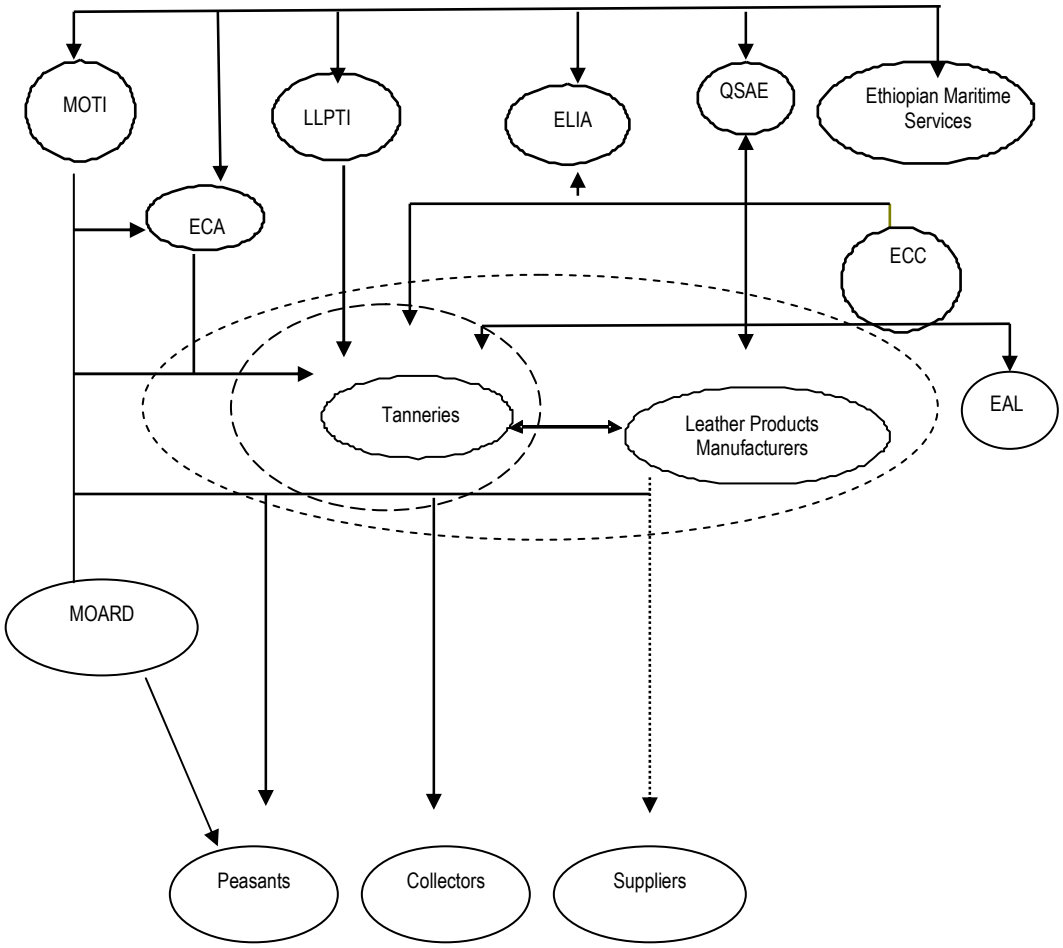
From this information, we mainly judge that the sole technology is important to encourage if we have to develop the shoe sub-sector. Second, as it is known there are many small and micro enterprise firms engaged in shoe making. Among the constraints that disable the development of the technology sole and stretching machine are important. Here, the shoes made by those firms are usually using glues after folding it using manual labor and simple machine. The institutional support is very much needed to manufacture high quality soles in Ethiopia, which is the major component in shoe making. The shoe demand has to respond to the needs of the population of the country. This huge market opportunity is taken up by other groups of countries like India by diversifying the products for leather articles .The poor can afford to wear shoes when there is low price and reasonable quality shoe, which are attained by higher productivity in shoe making and better technology.

In international market of shoe, based on the data we collect from web, the shoe price ranges from USD 19.50 to USD 399.00 in USA (120 different kinds of shoes) and USD 36.7 to USD 244.00, in Europe/UK for instance retail price of 25 various kinds of shoes. Under good technology and modern sole technology, Ethiopian firms can better exploit this opportunity.

## 3.6. Actors and institutions

Institutions play a major role in integrating actors along the value chain and increase individual and collective efficiency, and competitiveness. The institutional linkage and various actors, the level of strength and the missing actors based on the data are depicted in Figure 3.

Figure 3. Value chain map of the leather sector and the institutions



Farming households, livestock traders, abbatiors, butchers, collectors, and suppliers are main chain actors. In this supply chain, the most frequent problems of farm households are selection and breeding, skin disease, and preservation of H&S. Aew NGOs and bilateral institutions like USAid are working to improve the productivity and supply of H&S. Currently, they are engaged in the Amhara and Tigray Regions and soon to in Oromiya and SNNP Regions.

Another point is preservation of fresh H&S rural sources. There is a strong linkage between the MOARD and DAs; although the collectors indicated that the linkages and collaboration with respect to H&S preservation and collection activities between the DAs and households should be strengthened. Capacity constraints to address the prevailing problems often exist at lower tier of the Government and the GOE is working through its demonstration and extension system to improve the situation. On the same scale, there exists a similar loose linkage between rural butcheries and collectors, where the butcheries skip the legal collectors and opt for smuggling the raw hides and skins; the butchers also lack the technical knowledge of preserving the skin. Perhaps, this discourages legal collectors and reduces the quality of raw hides and skin. The MOTI, in this respect, should be able to control the legal aspect of trading and quality standards of the supply of hides and skins.

In Ethiopia, as part of a culture taboo, consumers prefer to slaughter animals in their backyard by a slayer or by themselves. Slaughterers are not trained; they also lack the necessary skill for slaying. Thus, often hides and skin are damaged and qualities are reduced. The self-based slaughtering is also similarly problematic as the major attention is to the meat not to the quality of hide/skin. There is no regulation to manage the quantity and quality of the fresh hides and skin. As a result, a major proportion of hides and skin remain uncollected, particularly in the rural areas. Institutions such as the Ethiopian Leather Industries Association, MOTI and other stakeholders can play a major role to improve the quality

and collection. By training unemployed youth, they could be engaged in collection.

Animal breeding is also and important factor, therefore, there is a need to encourag investors to engage in commercial breeding schemes.

It was observed that very young animals are slaughtered in abattoirs, which can possibily affect the biodiversity oc the cattle population of our country. This eventually affects not only the meat industry, but also the growth of the leather sector.

The marketing aspect of tanneries and leather articles manufacturers is important. The current practice seems a good beginning for better working relationship and upgrading of the tanneries. In this respect, the tanning industries have active engagement of the association, where there are webs, forums, etc, that support the marketing. However, the leather goods and articles manufacturers do not reach that stage and the institutional support from MOTI seems very determintal in bringing up the sector into its highest stage of development. The private sector has to play a role in this regard, through its sectoral associations for accesing technologies and exploiting market opportunities and investing in new technologies. To overcome the technology constraints the industrialists and private entrepreneurs should work hand-in-hand with institutions like MOTI.

The quality and standards control is loosely linked to the leather goods and articles manufacturing industries. It requires significant involvement and attention to upgrade standards to establish competitive and sustainable foreign markets.

# 4. Conclusion and Recommendations

From our study, it is clear that Ethiopia has a clear comparative advantage in raw skin and hides production. However, this comparative advantage is not yet turned into a competitive advantage in the global market. Globalization has brought value chain and competitiveness issues, where individual efficiencies are less important. Counting on the total figures earned an old order history, the issue is who earns what in the value chain, keeping it self within the bindings of the environment, the poor, the child, and women rights. Hence, the value chain studies for H&S eluminates important facets in developing the sector.

# Annexes

## Annex 1. Loss estimate for the value of hides Ethiopia per annum

| | |
|---|---|
| Total population of Ethiopia | 75,000,000.00 (CSA 2005/6) |
| Total farm population | 85% (63,750,000.00) |
| Total number of farm households, 63,750,000.00/ 7 | 9,107,143 (at an average family size of 7) |
| Total number of pieces of hides, 9,107,143 x 3 | 31,875,000.00 (at an average number of pieces in a household to be 3.5) |
| Estimated number of shoes from average sized hid | 8x 31,875,000.00 =20,400,000,000.00 pairs. |
| Total value of shoes at an average price of birr 100, of which the leather input is USD 75.00 | 19,125,000,000.00 |

## Annex 2. Eestimation for unprocessed skins that are left in the farmers' house

| | |
|---|---|
| Total Population of Ethiopia | 75,000,000.00 |
| Total farm fopulation | 63,750,000.00 |
| Total number of farm households, 63,750,000.00/ 7 | 9,107,143 (at an average family size of 7) |
| Total nmber of pieces of hides, 9,107,143 x 3 | 27,321,429(at an average number of pieces in a household to be 3.0) |
| Total number of pairs of gloves estimated to be produced using an average sized skin: 4x 27,321,429.00 | 2,049,107,143.00pairs. |
| Less the opportunity cost of the pieces of skin in the farmers house, 0.5 USD | 13,660,714.00 |

## Annex 3. Value chain Analysis Manual: Literature

The VCA manual has made the study standard. Important points of interest are:

- Plotting the value chain;
- The proportion of output (in value) that has to be fed in to a particular chain for an intermediate supplier to be seen as a member of particular chain;
- Physical transformation and service input activities;
- The level of specialization in the supply chain;
- Core competence resource/characteristics/activity of the firms- the tanneries (Kaplinsky, p.10);
- Lean production/World class manufacturing: Just in Time (JIT), Total Quantity Management (TQM), and Continuous Improvement (CI) of the firms' ***linked organizational innovations (ibid. p.11).*** "…Upgrading the performance of individual firms in a region may have little impact if they are embedded in a sea of inefficiency" (ibid p.12). Obviously, the efficiency in production is not enough- market access e.g. preferential access to some markets in EU, US, etc is important. In other words, this includes trade policies (preferential access, nationality ties, tariff, quota, etc) in final markets. Equally, important determinant is the role of the lead firms in the value chain (p.13). The value chain analysis ensures that the analysis treats the whole cycle of production including that governing connectedness to final markets;
- Determinants of access to final markets as trade barriers decline, the importance of ethnic connectedness, the role of the way firms are connected to final markets in redirecting and shaping their mix of activities, and the extent to which the competitiveness of the TNC firms affect the capacity of locally based firms to enter global market are important in the analysis;
- The importance of VCA in explains the share of benefits, which again helps to draw policies, which increase the share of income

of the developing countries firms in global market/globalization[1]. Kaplinsky et al (2000) remarked that there is welfare improvement (escape absolute poverty) of the world population, particularly East Asia (p.17); adding that not everyone has gained- there are losers also and possibly gainers but still remain poor; so the impact of globalization on inequality is complex. Who are the losers and who are the gainers from globalization are important in the VCA;

- From a different point of view, we can use the VCA to detect if there is *immiserising growth* in that particular sector. This, according to Kaplinsky et al 2000, is a situation where there is increasing economic activity (more output and more employment) but falling economic returns (p.21). The VCA has to inform if there are such features in the particular sector. If for instance export prices fall faster than export volume increase, the firm and or the country may be worse off even though economic activity is increased (p22). Under this condition, increased exports can only be paid for by lower wage (Kaplinsky & Readman, 2000);
- VCA is important in that it informs on even though the competitiveness may be achieved, the mode of connectedness in to the global economy may require a focus on macro policies and institutional linkages, and these require a different set of policy responses to those, which deliver firm level competitiveness (p.23);
- VCA, most importantly, helps also to see the dynamic determinants of income distribution. Moreover, there is a possibility of looking in to the dynamics of income distribution; Key question to this are:

    - Does participation in global markets guarantee a sustained increase in living standard?

[1] "Globalization is defined as the pervasive decline in barriers to the global flow of information, ideas, hnfactors (especially capital and skilled labour), technology & goods" Kapliniski et al (2000).

- If it does not, in what way can producers participate in global markets successfully and then be worse off than they were before?
- If some firms do not participate effectively in global markets, does this mean that the sector the sector or the country as a whole is necessarily worse-off?
- How can *immiserising growth* be gauged from data on export volume growth, export value growth, and unit price?
- How does VCA help to explain the ways in which individual firms, or linked groups of firms, can participate more effectively in global markets?
- Is production efficiency –even that involving close cooperation between firms in the value chain –adequate to sustain income growth in the global economy?

These questions have more relevance to compare the importance of the sector in the national economy or international trade. At this junction, we would like to remark that wider scope study is required with respect to the leather sector in Ethiopia to look in to the details;

- Producer-driven or buyer-driven? is there a shift from tangible to intangible activities? Intangible activities are increasingly knowledge and skill based and is embedded in organizational systems and is a growing barrier to entry. The shift from producer to buyer driven is therefore illusory and arises because at this point in the competitive cycle, branding and marketing are becoming increasingly important in many chains Similarly particular product families (toys, clothing) may simultaneously have buyer driven and producer driven chains, depending on which intangibles the lead parties dominate;
- What sanctions are available to value chain governors? and how effective might those be in determining behavior of different value chain participants;
- Innovation and upgrading: is there a capacity to innovate and a continuous improvement in product to ensure sustainable income? However, innovation in itself may not be adequate if $INVratefirm_i < INVratefirm_j$, this may result in declining value

added and market share; in the extreme case result in immiserizing growth (p.37);

- What are the primary forms of upgrading in VCs and can those be distinguished from upgrading in individual firms? Is there a hierarchy of upgrading and can if so, can firms jump stages? Can firms sustain upgrading without moving through the hierarchy? Is a focus on core competences and outsourcing a necessary condition for sustained upgrading (P.40)?
- The first step in VCA is mapping distributional outcomes; the greater the barriers to entry the higher the degree of profitability (p41). So profitability is an important window into understanding the pattern of return in the global production network, however limitation is observed in some cases e.g. when none of the entrepreneurial functions are earning no profit (p.42). Therefore, we need to focus not on profit only, but also other factors. Accordingly,

> *the distributional outcome in GVCs is to be seen in the incomes arising to capital (for its entrepreneurship, risk-taking, and ownership of technology), labour (for its efforts), and to owners of natural resources (for their command over inputs which arise as gifts of nature) in each of the links in the value chain* (p.42).

- The key to understanding distributional outcomes: value added per employment; and decomposition rather than the average value added to tell us about the distributional outcomes within any particular link of the chain or any particular location (p.42).

# Acronyms

| | |
|---|---|
| ASF | Anbessa Shoe Factory |
| ACDI | Agricultural Cooperative Development International |
| CI | Continuous Improvement |
| DA | Development Agent |
| DRC | Domestic Resource Cost |
| EPCs | Effective Protection Coefficient |
| ETA | Ethiopian Tanners Association |
| ELIA | Ethiopian Leather Industries Association |
| ELMA | Ethiopian Livestock Marketing Authority |
| ECA | Ethiopian Customs Authority |
| ECC | Ethiopian Chamber of Commerce |
| EDRI | Ethiopian Development Research Institute |
| ELICO | Ethiopia Leather Industries Company |
| EAL | Ethiopian Airlines |
| FDI | Foreign Direct Investment |
| H&S | Hides and Skins |
| ITC | International Trade Center |
| JIT | Just in Time |
| LLP | Leather and Leather Products |
| MEDaC | Ministry of Agriculture and Economic Development |
| MOARD | Ministry of Agriculture and Rural Development |
| MOTI | Ministry of Trade and Industry |
| NPC | Nominal Protection Coefficients |
| NGOs | Non-Goveremnt Organizations |
| NVI | National Veterinary Institute |
| QSCE | Quality and Standard Control Enterprise |
| SMEs | Small and Micro-enterprises |
| SNNPR | Southern Nations, Nationalities, and People Region |
| TNC | Transnational Corporation |
| TQM | Total Quantity Management |
| UNDP | United Nations Development Program |
| UK | United Kingdom |
| UNCTAD | United Nations Conference on Trade and Development |
| USAID | United States Agency for International Development |
| VOCA | Volunteers in Overseas Cooperative Assistance |
| VCA | Value Chain Analysis |
| VAT | Value-added Tax |

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