Production of hide and skin in Ethiopia; marketing opportunities and constraints: A review paper

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Abstract: Ethiopia is believed to have the largest livestock population in Africa. Livestock subsector makes the major contribution to the overall economy. The livestock sector accounts for 19% of the GDP and generates 16–19% of the foreign exchange earnings of the country. It constitutes around 35% of the agricultural GDP, or 45% if indirect contributions are taken into account. With the rapidly growing population, increasing urbanization, and rising incomes, the domestic demand for meat, milk, and eggs is expected to increase significantly in the foreseeable future. The livestock production system in Ethiopia is traditional and contributes to both subsistence and cash generation. Hide is the raw skin of mature animals of larger kinds, example cattle, horse, and also other large animals. Skin is the skin of fully grown animals of smaller kinds. Hide and skin in the subsector is constrained by various structural, production, information exchange, and quality problems, as well as financial constraints. The opportunities of hides and skins sector in Ethiopia are raw material availability due to the large livestock base in pastoral areas, ready market, there is a growing national and international market for hides. To improve the hide and skin sector situation in Ethiopia, training needs to be provided for producers and collectors, collection and marketing of hide and skin should be done immediately after slaughtering, and
household, government, and national and international organizations need to work together.

Subjects: Economics; Environmental Economics; Industry & Industrial Studies

Keywords: Livestock; opportunities; constraints; hide and skin; marketing

1. Introduction

1.1. Background and justification

In Ethiopia, agricultural development has been prioritized by the government for stimulating overall economic growth, reducing poverty, and achieving food security. The agricultural sector of Ethiopia accounts for about 42% of the GDP, more than 80% of the export, and 85% of the employment opportunities (MOFED, 2012). Within agriculture, the livestock subsector provides an opportunity for further development. The total size of the national livestock herd, being one of the targets in Africa, makes it replete with the potential to contribute significantly to national development, including to poverty reduction.

Ethiopia is believed to have the largest livestock population in Africa. An estimate indicates that the country is home to about 54 million cattle, 25.5 million sheep, and 24.06 million goats (Bekele, Lamaro, Berhe, & Berhe, 2017). From 1995/96 to 2012/13, the cattle and sheep populations grew from 54.5 million to over 103.5 million, with an average annual growth of 3.4 million (CSA, 2013). In 2024/25, the cattle, sheep, and goat populations in the sedentary (people that are not travel from place to place) areas of Ethiopia are estimated to reach 75, 42.8, and 39.6 million heads, respectively (Leta & Melese, 2014). These livestock subsectors also majorly contribute to the overall economy. The livestock sector accounts for 19% of the GDP and generates 16–19% of the foreign exchange earnings of the country. It also accounts for about 35% of the agricultural GDP (or 45% if indirect contributions are taken into account). With the rapidly growing population, increasing urbanization, and rising incomes, the domestic demand for meat, milk, and eggs is expected to increase significantly in the foreseeable future. Furthermore, the country’s foreign exchange from livestock product has seen an increase, especially by supplying red meat to the Gulf and within Africa, as well as by providing leather and other livestock product to Europe (MOA, 2012).

The livestock production system is greatly traditional and contributes to both subsistence and cash generation. Animals are sold or slaughtered only at an advanced age, or in the case of urgent need (Ehui, Jabbar, Kiruthu, & Gebremedhin, 2002; Ayele et al., 2003). Self-sufficiency in food production and increase in rural income and foreign currency earning of the country through improving the quality and quantity of export items are among the main objectives of the current agricultural development polices of Ethiopia. Cattle, sheep, and goats are important sources of income for the agricultural community and together comprise one of Ethiopia’s major sources of foreign currency earning through export of live animals, as also meat, hide, and skin (Desta, 2008).

Hides and skins could be obtained from fish, birds, and reptiles as well as from wild and domesticated animals. The most important sources are cattle, sheep, and goats. Based on annual offtake rates of 7% for cattle, 33% for sheep, and 35% for goats, the potential production is estimated at 2.38 million cattle hides, 10.07 million sheep skins, and 7.38 million goatskins in 1998/99. This raw material of the leather industry is mainly derived from local areas of the country where basic amenities for slaughtering and subsequent marketing are either not in existence or lacking (Ahmed, 2000). Hide gained from cattle and skins from goats and sheep are important economic products contributing to the largest share of the total agricultural export commodities (Food and Agriculture Organization (FAO, 2005), followed by live animals (Solomon et al., 2003). The availability of hides and skins through slaughtering or death of livestock is of particular importance to the leather industry. Hides and skins have been one of the country’s top foreign currency earners. Although today it ranks fourth, next to coffee, chat, and oilseed export,
in the 1980s and 1990s it used to be second highest foreign currency earner. In 2011, Ethiopia earned 139.28 million USD from the export of finished leather, shoes, garments, and gloves to foreign countries (CSA, 2011). However, the production of hide and skin in the subsector is constrained by various structural, production, information exchange, and quality problems, as well as financial constraints. Despite its potential, hide and skin performed weakly not only in the production sector but also in the marketing of hide and skin products. Therefore, these issues in the production and marketing of hide and skin products led to a review of different literature on its production and marketing trends.

1.2. Objectives
The overall objective of this review study was to assess hide and skin production and the marketing trend in Ethiopia, and it specifically aims to:

- Review the hide and skin production and marketing trend in Ethiopia
- Review the production and marketing constraints of hide and skin in Ethiopia
- Review opportunities and the economic significance of hide and skin in Ethiopia

2. Methodology
This article is based on an intensive literature review of published and unpublished materials like books, articles, and other scholarly materials. The data are presented in a narration form.

3. Review of the literature

3.1. Definition of hide and skins
The words "hides and skins" are often used interchangeably; however, according to the British standard definitions, hide is the raw skin of mature animals of larger kinds, such as cattle, horse, and other such large animals. Skin is the skin of fully grown animals of smaller kinds, such as shoat, pigs, reptiles, birds, and fishes or of immature animals of the large species like calves and colts (Teame, 2017). Hides are categorized based on the age and weight of animals. Accordingly, calf skins usually weigh from 0 to 6 kg in green conditions. Adult animals' hides can be categorized into three categories: light, medium, and heavy. Light category hides are from young heifers/bulls with a weight of 6–11 kg in the green state. Medium category hides are from young cows and bulls that weigh 11–17 kg. Heavy hides are from full-grown cows or bulls that weigh more than 17 kg. Sheep skins are divided into hairy and wool types depending on the types of the hair coat. Goatskins are highly valued as a raw material because of their high demand for superior-quality leathers (Russel et al., 2005).

3.2. Hide and skin production and marketing trend in Ethiopia
Hide and skin production is commonly practiced as an additional activity, and none of the respondents specialized in this activity. The emergence of modern tanning in Ethiopia dates back to 1918 and 1927 with the establishment of the then ASCO (currently Addis Tannery) and Darmar/Awash (currently ELICO) tanneries, respectively. Between 1954 and 1976, Dire, Modjo, and Kombolcha tanneries were established (Darge, 1995). The leather industry sector is one of the growing economic sectors in Ethiopia. However, the sector is constrained by different issues like external parasites, inappropriate management of animals, faults during slaughtering, and improper handling of skin before reaching the tannery, due to which the sector is losing a large amount of money due to the decline in quality and the fall in export price. Currently, 27 tanneries in Ethiopia produce all forms of hides and skins and finished leather for the domestic and export markets. These tanneries have an average daily soaking capacity of 107,850 pieces of sheep skin, 51,550 pieces of goatskin, and 9,800 pieces of hide. The annual capacity reaches approximately 48 million (32.4 million sheep and 15.5 million goat) skins and 2.9 million hides (CSA, 2007). However, the importance and uses of hide and skin production in the context of smallholder farmers were multidirectional. Data from the three districts which are (Gambella Zura, Godare and Lare) had
shown that hide and skin are primarily used for income generation and secondarily used for bedding purpose in all districts (Getachew et al., 2017).

Ethiopian small ruminant skins, especially sheep skins, traditionally have a very good reputation for quality in the world leather market due to their fine grain and compact structure (Abadi, 2000). According to the United States Agency for International Development [USAID] (2013) report, the existing 27 tanneries in Ethiopia produce all forms of hides and skins and finished leather for the domestic and export markets with average daily soaking capacity of 107,850 pieces of sheep skin, 51,550 pieces of goatskin, and 9,800 pieces of hide. Meanwhile, the annual capacity reaches approximately 48 million (32.4 million sheep and 15.5 million goat) skins and 2.9 million hides. However, the capacity to process hides and skins greatly exceeds domestic supply, particularly for raw sheep and goatskins (USAID, 2013). Although Ethiopia has very good potential to produce substantial quantities of hide and skins, the quality of the hide or skin is to a large extent related to the amount of damage to the grain (or outside) surface. In this regard, the leather industry sector is losing large amounts of money due to the decline in quality and the fall in export price (Central statistical authority [CSA], 2007, ESGPIP, 2009). It is estimated that about one quarter to one-third of all the skins processed at tanneries are unsuitable for export due to various defects (Kassa, 1998). Some reports indicated that the major problem affecting the leather and especially the tanning industry is related to skin diseases, scratches, scabs, and branding, poor pattern, flay cuts, putrefactions, and poor substances (Abadi, 2000).

Based on annual offtake rates of 7% for cattle, 33% for sheep, and 35% for goats, the production stood at 3.78 million cattle hides, 8.41 million sheep skins, and 8.42 million goat-skins in 2012/13 (CSA, 2013). The 7% offtake rate for cattle falls significantly below the African average of 12.71% and the world average of 20.31%. However, the offtake for sheep ranks slightly below the average level in Africa and the offtake for goatskin ranks slightly higher than the African average, although both remain well below the world average (USAID, 2013). The percentage of skins having defects, which end up downgrading the quality, has increased tremendously in Ethiopia. Skin quality is primarily defined by the absence of damage to the grain layer of the skin (Hadly, 2001). Tanneries state that only 10–15% of the harvested skins qualify for top grades, with the rest being downgraded and sometimes even rejected. The quality of finished leather is related to a number of surface and structural defects that the hide and skin acquire in the life of the animal, during slaughtering, storage, and transportation stages (Kidanu, 2001). The causes of defects on raw hide and skin can be broadly classified as pre-slaughter and post-slaughter defect causes.

The marketing of hide and skins starts at the producer/consumer level and passes through a chain of middlemen until it reaches the tanneries. Collectors of raw hide and skin are available in almost all towns of Ethiopia. They collect the hide and skins through rural agents or through farmer’s carriage to the market and urban areas through intermediary collectors or themselves. The major producers of hides and skins are individual householders residing in the different kebele across Ethiopia. About 90–95% of the hide and skin production is derived from urban as well as rural backyard slaughters, while the remaining 5–10% is produced from major urban slaughterhouses and export abattoirs (Ahmed, 2000). Rural and urban slaughter operators in rural slaughter slabs produce a sizable volume of hides and skins, second to the individual household. These operators use poorly equipped slaughter points, where the infrastructure is sometimes a slab of concrete, under a shade, or using poles for hoisting carcasses. The hides and skin from the sources (usually the household across the country) are normally collected by village-level collectors, intermediary traders/collectors, and large traders/wholesale suppliers (Behailu Amde, 2017).

The actual market supply of hides and goatskins, unlike sheep skins, is far below the production potential. This can be seen from the 1994/95 production and tannery purchase data. Based on the estimated production of Hide and skin (1994/95), which stands at 2.23 million hides, 9.32 million...
sheep skins, and 7.04 million goatskins, the amount captured by tannery purchase in the same year is 48, 75, and 97% of the available potential of cattle hides and goat and sheep skins, respectively. The balance is either utilized by local tanners, left unutilized, or smuggled into neighboring countries. On the other hand, the raw material supplied to the existing tanneries of the country is further processed to semifinished or finished leather for the local and export markets. Because reliable information is lacking, the respective proportions of the non-recovered hides and skin, i.e., utilized by local tanners, wasted without any use, and directed to illicit trade, could not be indicated (Mohammed, 2000). However, according to one field survey report of leather market authority conducted in 1999 in the Amhara region, there were 5,299 local tanners that consumed some 85% of the region’s annual hide production, amounting to 626,569 hides. Moreover, the 865 local tanners in Tigrai region use on average eight hides and eight to ten goatskins per month for converting the raw material into different household or farming input items. It is believed that quite a considerable number of local tanners found in other regions of the country make use of the raw material as well.

3.3. Constraints of hide and skin production and marketing in Ethiopia

According to Girma Admasu, 2002, the constrains the hide and skin market faced were reflections of the economic policy, which were characterized by socialist-oriented development and a centralized planning system: nationalization of major industry, financial institution, allocation of quotas, fixing prices, legal monopoly of corporation, restriction of trade movement, and the like. Apart from the problems that stemmed from the system, the main constraints in the marketing of skin and hide included inadequate network of primary buyers, lack of facility for slaughtering, preservation, storage, transportation, disease, parasite, flay cut, lack of incentives for improvement, and limited effectiveness of government extension service.

The main constraints adversely affecting the production and marketing of hides and skins are shortage of raw material, quality deterioration, lack of incentive to supply good-quality raw material to suppliers, and inadequate numbers of slaughterhouses and slabs (Mohammed, 2000). However, for Girma Admasu, 2002, the gap between demand and potential supply is the factor that affects the production and marketing of hide and skin in Ethiopia. According to Devassy (1990), apart from the problems that stemmed from the system, the main constraints in the marketing of hides and skins included an inadequate network of primary buyers, lack of facilities for slaughtering, preservation, storage, and transportation, “lack of incentives for improvement,” and limited effectiveness of government extension service. Factors adversely affecting the production and utilization of hides and skins as reported by the interviewed households were insufficient slaughtering houses and facilities, poor slaughtering system, poor animal husbandry practices, and lack of training on production and marketing of hides and skins as extension service with their decreasing index values of 0.208, 0.171, 0.153, and 0.136, respectively (Feleke and Amistu 2016).

Kagunyu, Wayua, Ngari, and Lengarite (2011) indicated the problems of hide and skin production and marketing in Ethiopia are poor infrastructure, remoteness and lack of market information, unfair competition from unlicensed dealers, and inadequate numbers of slaughterhouses and slabs. However, lack of capital or finance for initial capital outlay, expansion, and working capital remain a major constraint. Setting up a modern slaughterhouse or a tannery is an expensive undertaking. There are very few financial institutions or banks that are willing to lend money to hides and skins traders as they do not have acceptable collateral; livestock is not accepted as a security for loans, and the land tenure in pastoral areas is such that there are no individual title deeds (Wayua & Kagunyu, 2008).

The main constraints adversely affecting the production and marketing of hides and skins are defect, the utilization of hide and skin for traditional household items, the existence of cross-border illicit trade, and misuse of the raw material due to lack of awareness, all of which result
in a low recovery rate and ultimately shortages of raw HS in the central market (MEDc, 1999). Apart from the problems that stemmed from the system, the main constraints in the marketing of hides and skins included an inadequate network of primary buyers, lack of facilities for slaughtering, preservation, storage, and transportation, “lack of incentives for improvement”, and limited effectiveness of government extension service, as well as other man-made and natural damage inflicted on the raw hides and skins, which downgrades quality (Mohammed, 2000). The number of slaughterhouses in the country is very limited. Thus, the majority of cattle, sheep, and goat slaughter are carried out in the backyard, which results in poor-quality raw hide and skins in the domestic market. As a result, the risks of international price changes are shared between the tannery and merchants. The poor transfer of knowledge, skills, and information is further manifested by limited interaction of the farmers with extension officers due to poor road networks and resources. Considerable progress has, however, been made in the provision of communication systems such as mobile telephone facilities (Mas & Morawczynski, 2009).

3.4. Opportunities and economic significance of hide and skin sectors in Ethiopia

There are many opportunities in the hides, skins, and leather sectors in Ethiopia. These are raw material availability due to the large livestock base in pastoral areas, ready market, the growing national and international markets for hides, skins, and leather products, use of wet salting technology to improve curing and preservation by using simple and effective technology of preserving hides and skins using salt—with a potential of increasing profits many-fold—local processing and value addition in community-based tanneries, and government willingness in revitalizing the hides, skins, and leather sectors through public/private partnerships (Mwinyihija, 2011). Hide and skin contribute to our country as foreign exchange- and employment-creating opportunity. Hide and skin are animal by-products that generate high revenue, next only to coffee. They are produced jointly with meat and possibly milk, but generally account for less than 5% of the values of the animals. Although leather gained from the hides of large ruminants is used mainly for shoe-making, is the most important of world trade in hides and skins, these small scale may also be of value. Sheep skins are often traded with wool attached, including the special case of karakul, best known as astrakhans, while goat fibers such as mohair and cashmere are highly valued. Goat and pig skins provide delicate leathers, while rabbit skin is also of value, where their main importance today is in clothing, particularly coats (Mekonnen and Gezahegn, 2008).

According to the Ethiopia Ministry of Industry 2012, leather and leather product exports increased from 67 million USD to 104 million USD between 2004/05 and 2010/11. Due to the financial crisis and other factors, exports declined in 2009/10, but picked up heavily in 2010. On average, the leather and leather products industry contributed 5.9% to the total export earnings for the year 2004/05–2010/11 corresponding to a slight decline, due to other export items occupying significant positions in the country’s export mix. The global trade of light leather amounted to 16.6 billion USD in 2010. Despite its impressive resource base, Ethiopia’s share in this trade is about 6%. The Ethiopian Leather and Leather Product Institute (LLPI) contains two sectors: tanning and dressing of leather, luggage, and handbags; and footwear manufacturing. The number of employees in both the tanning and dressing of leather and footwear manufacturing industries increased significantly from 950 007 people to 1 902 194 in 2000 to 2013, respectively; there was a data gap in 2012. This significant change in the number of employees in the leather industry, as well as other manufacturing industries, is due to the government policy that gave priority to producing more value-added products. In 2007, the number of employees in tanning and dressing of leather, luggage, and handbags was 3 793, which then increased significantly to 15 452 in 2013. At the same time, the number of employees in the footwear-manufacturing industries increased from 4 558 in 2007 to 16 150 in 2013. However, the share of the leather industry in the total manufacturing sector declined from 8% in 2011 to 2% in 2013; this is due to a significant increase in the textile and wood industry from 13 431 (8%) and 3 988 (2%) in 2011 to 416 913 (22%) and 114 485 (6%) in 2013, respectively. On the
other hand, employment in micro and small enterprises engaged in the leather industry also increased; there were more than 12,000 individuals working in shoe-making businesses in 2011 (Abebe & Schaefer, 2013). This indicates that the export tax on raw hides and skins and unfinished leather products led to the increased production of finished leather products and footwear in the country.

4. Conclusion and recommendations

4.1. Conclusion
Ethiopia has the largest livestock population in Africa. Livestock sectors play vital roles in generating income to farmers, creating job opportunities, ensuring food security, providing different services, contributing to asset, social, cultural, and environmental values, and sustaining livelihood strategies of peoples. The hides, skins, and leather sectors of Ethiopia have potential because of the availability of raw material, which in turn is due to the large livestock base in pastoral areas, the ready market, and the growing national and international markets for hides, skins, and leather products. Raw skin and hide production faced a serious challenge in Ethiopia since skin and hide were downgraded and rejected, which is because of various ante-mortem and post-mortem defects contributed by skin diseases, slaughtering defect, and improper practices of curing, collection, transportation, and storage. Production and marketing activities like slaughter and flaying operations of cattle, sheep, and goats are also conducted in many cases traditionally and by unskilled personnel. Market access was only available around towns with the absence of market competence. Skin and hide collectors having no facilities for preservation and storage, illegal traders’ participation, and knowledge gap in handling practices were also identified as challenges or constraints for skin and hide marketing.

This hide and skin sector helps achieve foreign exchange for our country and generate employment. However, the contribution of this sector to the country’s economy is not as expected despite the large livestock population in Ethiopia. This is due to uncontrolled skin diseases, mechanical defects, backyard slaughtering systems, and poor marketing systems. Although skin and hide are the most important items that help generate foreign currency for developing countries such as Ethiopia, as many as one-quarter to one-third of all skins processed at tanneries in Ethiopia have various defects and are unsuitable for export purposes, where most of these defects occur in the ante-slaughter stage of production like from skin disease, external parasitic infestation, mechanical damage, and natural or environmental defects.

4.2. Recommendations
To make considerable improvements in the hide and skin production and marketing situations in Ethiopia, the following measures and actions should be taken by household heads, the government of Ethiopia, and national and international organizations.

● There should be frequent awareness-raising training programs for different responsible bodies from farmers to the warehouse level by government and NGOs.

● To utilize our livestock by-products effectively and decrease the prevalence of skin disease and parasites, adequate veterinary services should be implemented.

● Collection and marketing of hide and skin should be done immediately after slaughtering to reduce postharvest spoilage and loss of the product.

● All hide and skin producers and collectors need to use proper methods of hide and skin preservation, and slaughtering facilities must be fulfilled by the government to maintain hide and skin quality.

● The government and private institutions should organize individual middlemen under micro and small enterprises for the proper management of hide and skin and for producing employment for the people.
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