Analysis of Value Addition in Hide and Skin Tannery Industry around Addis Ababa City, Ethiopia

MSc Thesis

By

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WOLKITE, ETHIOPIA

Analysis of Value Addition in Hide and Skin Tannery Industry around Addis Ababa City, Ethiopia

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Declaration

I hereby declare that this MSc Specialty or equivalent thesis MSc dissertation is my original work and has not been presented for a degree in any other university, and all sources of material used for this thesis / dissertation have been duly acknowledged.

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Advisors' Approval Sheet

This is to certify that the thesis entitled "**Analysis of value addition in hide and skin tannery industry around Addis Ababa city.**" submitted in partial fulfillment of the requirement for the degree masters of science in economics with specialization in development economics, Graduate Program of the Department of Economics, and has been carried out by **Feyera Hailu Fekene** under our supervision. Therefore, we recommend that the student has fulfilled the requirement and hence hereby can submit the thesis to the department.

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EXAMINER'S APPROVAL SHEET

As members of the Board of Examiners of the final Master's degree open defense, we certify that we have read and evaluated the thesis prepared by Feyera Hailu Fekene under the title "Analysis of value addition in hide and skin tannery industry around Addis Ababa city" and recommend that it be accepted as fulfilling the thesis requirement for the degree of Master of Arts in Development Economics with Specialization in Economics.

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BIOGRAPHICAL SKETCH

Feyera Hailu Fekene was born in Dire Enchine Woreda West Shoa of Oromiya Regional State in March 1981. I attended my primary education at Bola elementary school. I attended my secondary school education at Gudar senior secondary school in West Shoa Zone. After completion of high school education, I was joined Jimma University Ambo Collage of Agriculture department of General Agriculture and graduated in July 2001 with diploma in Agriculture. Soon after my graduation, I was employed at Nono Woreda Agricultural office and served as expert of input supplier coordination Unit for Seven years. Simultaneously I continued my distance and continuous education program at Rift Valley University and I was graduated 2014 BA Degree in Economics. Then after the author joined the School of Graduate Studies of Wolkite University in October 2018 to pursue my MSc degree in Economics in extension program.

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ABSTRACT

The main objective was to analysis the factors that affect value addition in hide and skin tannery industry in and around Addis Ababa city specifically in Sebeta and Burayu Town with the objectives of describing the market chain for raw hide and skin, to assess quality management's practices and identify factors affecting both marketing and quality of hide and skin to asses analysis of value addition in hide and skin tannery. A survey was conducted collected from 7 hide and skin collection centers (3 from Sebeta and4 from Burayu), all butcheries' abattoirs and all middlemen in both town. Semi structured questionnaire and secondary data were collected from both town. Descriptive statistics were used to analyze the data. Results indicated that from all respondents in Burayu 65.2% respondents' in Sebeta sold the hide and skin to the market. Of total respondents 55.4%, 42.4% and 2.2% sold hide and skin for middlemen, collection centers and informal market respectively in Burayu Similarly 68.7%, 23.2% and 8.1% of respondents sold hide and skin for middlemen, collection centers and informal market respectively in sebeta. Buying process was done without following the grading standards of hides and skins, by simple sorting based on visible defects, size, pattern and freshness. The average sheep skin sale price of farmers 53.86 birr and 48. 83 birr in burayu and sebeta respectively. Collection centers bought 60 birr, 40 birr and 5.5 birr/kg for sheep skin, goat skin and cattle hide respectively in burayu market. In same manner in Sebeta market collection centers bought 50 birr, 37.75 birr and 7birr/kg for sheep skin, goat skin and cattle hide respectively. Of respondents of farmer 82.6% sold fresh with in 12hours and 17.4% sold the hide and skin unpreserved within 24 hours in Burayu. While in Sebeta about 87.8% respondents' sold hide and skin fresh within 12 hours and 12.2% of them sold the hide and skin unpreserved within 24 hours in burayu. The concerned bodies should reinforce and mainstream the system of buying of hides and skins on standard grade basis for middlemen and collection centers.

Key words: value addition, Hides and Skins, Market Chain

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The growth of manufacturing industry is critical in order to ensure sustainability of the current economic growth and to realize the vision of becoming a lower middle income country by 2025. A breakthrough in economic transformation and industrialization is the overarching goal of the industrial sector in Ethiopia. In GTP II, the industrial value addition is set to increase at annual average growth rate of 20% and the share of the industry sector in overall GDP will accordingly increase from 15.1% in 2014/15 to 22.3% by 2019/20 (GTP, 2016). The same source showed that the Ethiopian manufacturing sector should strive to become competitive at local, regional and global levels. Therefore, it is important to device appropriate marketing strategy to further expand and enter into new markets particularly in the domestic, regional and international market. Not all the sectors with the industry could follow similar strategy and this requires each sector to define its markets, to segment it, and position its products and services to get higher returns. This is to say that the outputs of the manufacturing sector should target the demand and requirement (standard) of the market at different levels which is achieved through practicing appropriate value addition activities.

Ethiopia possesses one of the world largest livestock populations: eighth for cattle, twelfth for sheep and lambs, and eighth for goats (FAO, 2011). Ethiopia's economy is predominantly agricultural where the livestock sub-sector plays substantial role. Agricultural growth, particularly through improved productivity and market access, is one of the principal routes to reducing poverty in developing countries. There is considerable diversity across countries with regard to the importance of smallholder livestock keeping in rural livelihoods. Ethiopia is endowed with a very large and diverse livestock resource in the world. Ethiopia’s livestock population was estimated to be 44.3 million cattle, 23.6 million sheep and 23.3 million goats. Based on the off-take rate of 7.0%, 33.0% and 35.0% for cattle, sheep and goat respectively. So, expected to produce 3.1 million hides, 7.8 million sheep skins and 8.2 million goat skins (CSA, 2004 and 2007). So the country is ideal for leather production and making leather products.

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The leather industry has been one of the major traditional industries together with the coffee and garment industries, but it is now at a turning point to change itself from a traditional industry to a modern industry to penetrate the international high value-added leather market. According to Berhanu (2016), the leather industrial sector has been given high priority through interventions in various areas as the country is well endowed with livestock resources which are a foundation of developing the Sector. The raw materials for leather and leather products industry are hides and skins mainly from livestock. According to CSA (2011), Ethiopia had 53.4 million cattle, 25.5 million sheep and 22.7 million goats. The livestock population increased to 56.7 million, 29.3 million and 29.1 million for cattle, sheep and goats respectively (CSA, 2015). These large numbers of livestock grant the country and its leather industry with a high potential in hides and skins which can position Ethiopia among the world's leading countries in leather production and export.

Hides and skins are the basic raw materials for the leather industry. Currently there are about 27 tanneries in the country and have an average capacity of 4,000 pieces of hides and 30,000 pieces of skins per day (EEA, 2007/08). However, they are working under capacity even if the country has a potential to supply around 20 million pieces of hides and skins per annum. The potential supply of hide and skins depend on the scale of meat production, not on the size of livestock population. Thus, the product, i.e. hides and skins, becomes available when meat is needed, not when it is appropriate for leather processing and so it is not primary agricultural commodity. This means that hide and skin supply does not respond to price change (FAO, 1998).

According to Ethiopia's Industrial Development Strategy (2013-2025), the leather subsector has three major industrial components. These are tanneries, the footwear manufacturers, and the leather products manufacturers. There are large and medium size plants in the formal sector and micro enterprises operating in the informal sector of the economy, particularly in footwear manufacturing. As per 2015 statistics, the leather industry was estimated to have 72 large and formal enterprises (33 tanneries, 17 shoe manufactures, 3 gloves makers, and 19 leather and leather goods industries).

Ethiopian skins and hides, specifically sheep skin, are well known in the world to produce high quality leather due to their fine grain and compact structure. Ethiopian highland sheep skins in

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particular, remain highly competitive in international markets for some natural characteristics of clarity, thickness, flexibility, strength and compact texture which make them especially suitable for making of high quality gloves, sport equipments and garments. Goat skins, originating from Wollo in Ethiopia and classified as *Bati-genuine* and *Bati*-type are characterized by thick, highly flexible and clean inner surfaces and are in high demand for the production of fashion leathers .These qualities are the reasons why a great number of leather producing companies in the world are attracted to Ethiopian skins and hides. Skins, hides and leather products are the second leading export item of Ethiopia next to coffee (Yibralem, 2010).

Although Ethiopia has a high 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). The government takes the Ethiopian leather industries as one of the priority sector and back bone for economic growth of the country (Ankelba, 2017). The same source indicated that the leather industries aged for many years and passes through different challenges, and it is still decline in its export performance as limited material destination and service delivery problems. This can affect economically growth and the strategies of the country.

Improving productivity and technological capacity, attracting new quality investments, creating sustainable and reliable development, building implementation capacity, increasing foreign exchange earnings, creating market system which boost value addition and bring benefits, and deepening integrated system of operation are the major focuses of the leather and leather products . Hence, by the end of the second growth and transformation plan, target is set to manufacture gross production worth of USD 2.06 billion and generate export earning of USD 707 million. On the other hand, the production capacity utilization of the industry would be increase to 85% while the sector will create new employment opportunities for about 336,000 citizens during the plan period (GTP, 2016).

1.2. Statement of the Problem

According to Ethiopia's Industrial Development Strategic Plan (2013-2025), the government has identified a range of priority sectors for industrial development. The industrial transformation, however, requires diversifying the sector beyond the existing priority sectors

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into new and more labor-intensive and high value-adding manufacturing industries. In this regard, the Leather Sector in Ethiopia has an immense potential to generate value addition, employment, exports and trigger other multiplier effects across the economy, because of its large livestock resource and competitively priced labour force. Though the government takes the Ethiopian leather industries as one of the priority sector and back bone for economic growth of the country, the leather industries aged for many years and passes through different challenges, and it is still decline in its export performance as limited material destination and service delivery problems. This can affect economic growth and the strategies of the country.

The full realization of the industry's potential in any country is dictated by value addition, which is also predicated upon skilled capacity, technology, financing and quality control. Lack of rigorous attention to these input parameters results in low quality leather and leather products, leading to low demand in both the domestic and export market. Value addition in the livestock sector has been minimal, and most of Ethiopia's exports have been in the form of unprocessed raw hides and skins (Ankelba, 2017). The leather value chain has three processing stages, each requiring different combinations of material inputs, labour and capital. The first stage is the recovery of raw materials that has direct links with animal production activities, Leather tanning and finishing is the second stage that requires a lot of capital while the third stage, which is the production of leather products, is more labour intensive activity (Umer *et al,* 2015). Tanneries are industrial plants that, like the majority of which use large-scale infrastructure and machines in order to transform raw materials into processed or value added goods by large quantities (raw hides and skins into wet-blue or finished leather).

Different scholars have also expressed concern about leather manufacturers failing to reap maximum benefit that the industry provides due to half-hearted uptake of value addition (Mwinyihija & Onyango, 2012; Kagunyu *et al*, 2013). Previous studies on leather have focused on other characteristics and only one or two aspects of value addition. There have been calls to fill gaps in the leather industry value chain through research to make the Ethiopia's leather and leather products competitive in the international market (Kiuluku, 2008). Yet Ethiopia is still challenged by minimal value addition and more knowledge is needed to improve the leather industry (Mwinyihija and Onyango, 2012).

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Tanneries being the platform between the agricultural side and the final products, they are a key in the success of Ethiopia in the leather industry. Despite the government's initiative to help the Leather Industry, however, tanneries have still strong difficulties producing finished leather which meets quality standards and that would allow either tannery directly or Ethiopian leather manufacturers to enter on the highly competitive international market. There is a general consensus in the industry that the promotion of value addition was necessary, however, the industry was not prepared enough to move to the higher level and there are still major technical, managerial, marketing and cash flow management gaps in many tanneries to operate at production and trade of finished leather at minimum. Moreover, Ethiopia's business climate features including resources, infrastructure, institutional constrains, import dependence and international market position, directly affect the economic model of the tanneries. Thus, this research is designed in response to such challenges in order to provide more knowledge on the factors affecting value addition and identifying the existing facilities and support system in the leather tanning industry in towns around Addis Ababa.

1.3 Objectives of study

1.3.1 General Objective

To assess the determinants of value addition in hide and skin tannery industry in the study area

1.3.2 Specific objectives

- ✓ To describe the market chain for raw hide and skin across the study area;
- ✓ To analysis factors affecting hide and skin quality management practices in the study area
- ✓ To asses determinants of value addition in hide and skin tannery in the study area

1.4 Basic Research Questions

- ✓ Where are the market chain for raw hide and skin across the study area?
- ✓ `What are the factors affecting hide and skin quality management practices in the study area?
- ✓ What the determinants of value addition are in hide and skin tannery in the study area?

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1.5. Significance of the study

For policy makers The study is important because in the industrial strategic development plan of Ethiopian government the leather and leather products sector is one of the seven priority areas identified as potential for the industrialization of the country taking in to consideration the resource advantage of the country and the job creating opportunities for its nationalities(GTP,2010/11).

For the study area or practitioners As such the outcome of this research will contribute to body of knowledge in value chain management and identifies the future thematic research areas.

For other researcher or stake holders This design would recommend assisting by stake holders or government to implement and use in order to reducing the factors affecting the leather value addition at different levels of value chain and increasing value added by changing the mix of activities conducted within the industries.

1.6 Scope of the study

Thematically:- The study covers the practice of the determinants of value addition in hide and skin tannery industry in and around Addis Ababa city.

Geographically:- The population of the study therefore includes the management staff, junior staff and customers of selected sectors. The study was limited to from four to two selected town as a result of time and other constraints. These include: Sebeta and Burayu town. The choice of the sector is as a result of its economic importance and role in poverty alleviation.

Time:- it is one time academic calendar for the propose of 2020 academic calendar

1.7 Limitation of the Study

While carrying out this study, the researcher was faced certain constraints. One of the problems the researcher encountered was not easy to get most of government officials in the woreda due to frequent out of their office and workloads. Lengthy appointments to return questionnaires or to conduct interview were also another problem. These factors caused data collection to take long time. Despite this, the researcher overcome the problems by using varies mechanisms. For instance, the researcher made frequent phone calls until the officials in the field or meeting returned also used to collect data from secondary sources.

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1.8. Organization of the Study

This thesis was organized in to five chapters. the first chapter comprised information about the introductory part including background of the study, general overview of the study area, statement of the problem, objective of the study and research questions, significance of the study, scope of study; the second chapter comprised the review of related literatures on conceptual and theoretical literature and empirical literature of the study concept would be discussed; the third chapter explained the research design and methodology of the study, the fourth chapter focused on the data presentation and analysis of the findings and the fifth chapter incorporated the summary and conclusion as well as recommendations based on the finding of the study

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CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical literature

Value addition is simply the act of adding value to a product, whether you have grown the initial product or not. It involves taking any product from one level to the next (Fleming, 2005). It refers to increasing the customer value offered by a product or service. It is an innovation that enhances or improves (in the opinion of the consumer) an existing product or introduces new products or new product uses.

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 goat, 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).

The model approach to value addition integrates both intrinsic (aspects that occur within the sector but also influenced by external environment e.g. inculcating entrepreneurship etc) and extrinsic factors (refer to external factors that influence internal aspects of the value chain e.g. market trends, policies etc). In pursuance of these phenomena aspects such as knowledge, processes, and technology use become fundamental dimension to ascertain potential value in the leather sector to enhance competitiveness (Jeong, and Hausafus, 2007). In addition, the initiative towards leather value addition is deemed fundamental at each production stage of the chain from pre-slaughter to finalization of leather and leather product. Relevance of value addition is on the

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basis of understanding the leather production outlets, innovation potential, product diversity, income stabilization, wealth creation, profitability, employment and both intrinsic and extrinsic opportunities related to the value chain. Moreover, to articulate the potential of leather value addition, nine aspects (employment, trade, costs, price, productivity, competitiveness, income etc were found crucial in further understanding the thematic areas of the review (i.e. trade, productivity, competitiveness and innovation).

2.1.1Costs:- Costs can be considered as fixed (rent, salaries etc.), variable (wages, raw materials etc.), direct or indirect. Costs can also be related to aspects such as stock financing, borrowing or loans, retentions, recapitalizations or capitals, investments or operationalization of enterprises (Durand, 1952; Jacobs and Shivdasani, 2012). This is an important aspect whether fixed or variable when related to the leather sector because it guides profitability and decision-making processes (Schäffer, 2008) in all sectoral enterprises. As such, it become prudent when evaluating the leather value chain to understand the dynamics related to costs and apportion factors that either enhance or deter value addition in the leather sector.

2.1.2 Price: - Price is associated with revenue of the enterprise and its profitability. Setting the right price determines an enterprise's survivability and subsequently influences the value perception for a product or service (Beck, *et al*, 2011). Thus, for value addition and its inherent potential, it is fundamental to take into consideration the pricing dynamics as an essential variable in determining demand and supply in the leather value chain.

2.1.3 Productivity: - Productivity depicts a situation where an enterprise has the ability to utilize its available resources in order to produce or supply goods or services profitably while meeting the clients' expectations (Boothe and Roy, 2008). Moreover, classic research indicated that establishing a relationship between input and output in the perspective of considering capital, labor, and consumer satisfaction provides a picture of productivity. However, current ideas about productivity consider it more important than profits and revenue, as it directly reflects on the efficiency and effectiveness of an enterprise's policies and processes (Young, *et al.*, 2008). Therefore, based on this notion, the leather sector value addition initiatives and opportunities could easily be used to measure productivity. This is paramount in particular when total productivity issues of the leather sector are to be determined.

2.1.4 Competitiveness:- Competitiveness refers to the capability and performance of the enterprise to supply or sell goods and services in an identified market in competition with other

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enterprises and in the process integrate social, economic, and environmental dimensions (Jiang and Shen, 2013). For the value addition initiative in the leather sector, the aim is to evaluate the competitiveness of the leather sector, underlying its potential to improve its current national performance in the leather value chain in various countries in Africa (Delgado and Ketels, 2011; Delgado, Ketels, Porter, and Sterne *et al.,* 2012). Furthermore, policies and factors along the value chain impacting on productivity, such as the quality of human resource and infrastructure (both social and physical) are worthy of consideration when evaluating value addition in the leather sector.

2.1.5 Income:- income is expressed in monetary terms to depict consumption or saving opportunities gained by an entity, though the actual meaning varies depending on whether it is referring to a nation, sector, or individual. In relation to the leather sector, the focus should be directed towards the entrepreneurial and sector levels in order to determine if there are positive gains or otherwise, in income in the sector at large.

2.1.6 Technology:- Technology is related to the enhancement of efficiency and promotion of growth in business. Over time, enterprises have increased their dependency towards the use of Information and Communication Technology (ICT) to address the needs of their clients (Lally, 2013). Increased used of e-commerce and social networking has become a necessity and influences decision-making processes, marketing, and operation of enterprises (Kramer, Jenkins and Katz, 2007; Riahi, Rahbargazi, Mahmoodoghli, and Abbaszadeh, 2012). It is with this background that efforts towards the leather value addition should evaluate the ICT profile and determine its impact on the leather sector value chain as a preamble to its performance.

2.1.7 Innovation:- Potentially is also referred to as research and development (though many consider it as a stand-alone). In relation to business management, innovation is considered the stimulus or catalyst that induces growth in enterprises. Innovation is considered a mode of delivering value to enterprises and effectively improves processes, products and services (Frankelius and Eliasson, 2011; Frankelius, 2009). Thus without due consideration of innovation as an integral process of value addition aspects such as competitiveness and productivity becomes elusive to the leather sector.

2.1.8 Quality Management of Hides and Skins

The quality of hides and skins for production of different types of leather is determined by certain characteristics of the raw material and these are (PIC, 1990): The thickness, and evenness

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of the thickness over the surface, the weight, the density and the presence of defects. Hides and skins differ in their structure depending upon the habit of life, season of year, age, sex, and breeding. The various operations involved in the preparation of hides and skins are most easily classified according to when they occur with respect to the time of slaughter. Accordingly, the first of three such periods is designated pre-slaughter. It covers the greater part of the animal's life, from its birth to about the time it is collected for delivery to the butchery. In fact it may be argued that the period begins even earlier, since some of an animal's characteristics are genetically determined. Any selection and breeding program that may be operated on the farm or ranch will inevitably affect many features of the offspring of a particular mating including certain characteristics of the hide or skin. Environmental ones often obscure genetic factors, in particular by the consequences of nutrition (Leach, 1995).

The pre-slaughter operations that affect the quality of the hides and skins available to the tanning industry are principally the result of the quality of the husbandry applied by those who looked after the animals-herders, farmers, ranchers, feedlot staff, veterinarians, hides and skins merchants and transport operators. In some circumstances, domesticated animals may receive almost no attention throughout their lives. These are the animals left to graze or forage (sometimes in open grassland), which may only be handled immediately before dispatch to the abattoir. By way of contrast, some dairy animals kept under intensive systems may be subject to almost continuous scrutiny. In between these two extremes there exist large ranges of animals' production systems, which can present more or less of a hazard to the quality of the animal's hide or skin (Leach, 1995).

In many livestock production systems, disease control is a major aspect of animal's husbandry. Any fatal disease that leads to the condemnation and destruction of the animal, or a serious disease that affects the productivity of the herd will have an adverse effect on the supply of hides and skins (Leach, 1995). The final part of the

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Pre-slaughter operations involve the supply and transportation of the animal to the market and ultimately the butchery. Special attention is required at this stage since any damage to the animal will not have time to heal before the animal is slaughtered, so any defect will remain on the hide or skins as an open wound. The range of different problems that can occur at this stage is extensive, and many others associated with improper transportation (LeachandIjaz, 1993).

Hides and skins supplied to the tanning industry generally come from two different sources, controlled slaughter in designated establishments and slaughters and deaths elsewhere. The latter includes the significant quantities of hides and skins sometimes available from special festivals (Leachand Ijaz, 1993).Since the primary purpose of slaughter is to provide meat for human consumption, it should be done under the best possible conditions of hygiene and safety. This is most easily achieved in controlled slaughterhouses. This type of operation is also likely to provide the best conditions for hides and skins preparation. In those places where proper slaughtering facilities do not exist, it may be necessary to improvise and prepare carcasses under condition, which would not generally be considered acceptable (Leach and Ijaz, 1993).

2.1.9 Preservation

Preservation prevents putrefaction and keeps skins in good condition until they are processed in tanneries. Being protein in nature; skins are susceptible to attacks by bacteria or mould that leads to putrefaction in hot and humid climates. Dust, dirt, soil, water, blood, fodder, etc., are sources of infection apart from microorganisms that could be transmitted by air, insects, or contact with diseased animals. The weight of a fresh skin is about 60% water, ideal conditions for bacteria to thrive. The protein matter hydrolyzed by bacteria leads to loss of skin substance resulting in poor-quality leather. Curing creates conditions whereby bacteria are prevented from destroying skins. The type of curing used depends on weather conditions, availability of materials, location of tanneries, and so on. For instance, some drying techniques do not work during the rainy season, and salting is preferred. In all techniques, the natural water is removed so that the low percentage of moisture makes the bacteria ineffective and as soon as this condition is reversed, bacteria become active again (FAO, 2001).

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Preservation is most effective when it is carried out quickly and thoroughly. Cattle hides, for example, should be dried to a moisture content of less than 15 percent within three days. Sheep and goat skins should be dried to a moisture content of less than 15 percent within one day. If drying takes longer bacterial damage is likely to occur. Similarly, hides and skins preserved by salting or brining should be saturated with salt – sodium chloride – within one day. Properly preserved hides and skins should be free of post-slaughter defects related preservation processes, such as bacterial decay, contamination and adulteration. Dried hides and skins should be flat, smooth and protected against insect damage during long term storage. Salted and brined hides and skins may be rolled, stacked or bagged to facilitate storage and transport (Ian and Wilson, 2009).

Most hides and skins must be preserved to protect them during storage and transport until they are converted into leather. Preservation should ideally begin immediately after slaughter and should never be delayed overnight. If freshly prepared hides and skins cannot be delivered directly to the tannery, they must be preserved. They should also be preserved if the delivery to a tannery is likely to be delayed, especially when the tannery is a long way from the butchery, and it may not be possible to deliver the fresh hides or skins quickly enough. Without preservation, the hides or skins would spoil before they were received in the tannery (Leach, 1995).

Preserved hides and skins may be stored for up to a year while waiting further processing. During this time preserved hides and skins may be collected and transported from remoter parts of a country and undergo grading, sorting and accumulation into large lots pending storage, sale and delivery. Storage usually involves costs such as rent, depreciation and interest charges (Ian and Wilson, 2009).

The most common methods of preservation are drying, salting, brining or the use of other chemicals Refrigeration, freezing and mechanical drying methods can be used, but they are expensive and tend to be reserved for more valuable skins in particular situations (FAO, 2001).

2.1.10. Transportation

Inefficient transportation may cause delays in arrival to tanneries or preservation centers as a result of which green or salted hides and skins deteriorate in quality. Poor handling during loading and unloading may damage quality of hides and skins (Kassa, 2005).Many types of vehicles are used to transport skins from Production sites to markets. Skins are often loaded

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singly on a truck or tied in loose bundles. Any movement that causes surfaces to rub together can cause considerable damage, especially to the grain, folded edges and corners. Rubbing damage caused during normal transportation by road is more or less negligible, but a certain amount of care is required to ensure protection of bales against rubbing and tearing on the outside surface by adequately covering them with hessian or gunny sacks (Ahmed, 2000).

2.1.11. Storage

To produce high quality hides, storage conditions are as important as proper preparation and preservation. In Ethiopia, a good percentage of skins are damaged during storage and transportation, especially during the rainy season. Problems that occur in rural drying sheds are the major source of damage and loss of skins. Rural drying sheds are highly infested with skin damaging insects, have leaky roofs, and do not use slatted platforms. Skins become damaged and many are totally rejected. While the main portion of insect damage happens in rural drying sheds, insect damage also occurs in tanneries and warehouses of large traders (Kassa, 2005).

2.1 12. Factors Affecting Hide and Skin Marketing

As a result of the by-product status, not enough attention is paid to maintaining the quality of hides and skins. Hides and skins are affected by pre-slaughter defects accumulated during the life of the animal; peri-slaughter defects during slaughter, and post-slaughter defects during handling, preservation and storage (Mwinyihija, 2010; 2011). In Ethiopia, the economic loss due to hides and skins defect is very high. These defects are encountered from the time the animal is born until the leather processing is completed. It is practically impossible to find out perfect animal hide or skin. Defects

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come from carelessness in breeding, feeding, living condition, diseases, parasites, handling, slaughtering, preservation, storing and transportation (MARD, 2007).

2.1.13 Pre-slaughter defects

Most hides and skins are affected by the pre-slaughter defects accumulated during the life of the animal (FAO, 2001. The commonly observed pre-slaughter defects can be natural (poor nutrition, age and sex, breed and climatic effects), mechanical damage (brand marks, scratches, horn rakes, yoke marks etc), or defects due to diseases that can be viral likes, small-pox rinder pest, fungal like ring worm or parasitic like tick-damage, sheep ked, louse infestation, mange etc.

2.1.14. Small Size

The small size of skin yielded by the hair sheep of tropical and mountain area origin is not considered a drawback because of the skin's superior quality of high tensile strength, compact fiber structure quality of high tensile strength, compact fiber structure and excellent grain. But according to Yacob (2013) review, small size skins that are downgraded due to poor quality are unwanted by tanneries. To the tanneries, processing these skins represents loss of profit due to the chemicals and labor involved in tanning a skin with a small, poor quality surface unsuited for finishing.

2.1.15 Peri- Slaughter Defects

2.1.16. Bruises

Are caused prior to slaughtering by yard beating of animals with sticks and ropes by driving them so that they jam in doorways or knock each other against the walls, and also by throwing them down heavily on hard floors, it appears on the meat and so does blood accumulation of extravasations under the hide or skin over the bruised area. Unless the reddish area on the flesh side of the fresh hides and skins are carefully cleaned wit out delay local accumulation of the blood quickly causes putrefaction and results in blemishes or weak spots on the final leather animal (FAO, 2001).

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2.1.17 Rubbed or dragged grain

This damage which is abrasion of the grain is caused by dragging a living animal, carcass or hide over rough ground. The damage occurs mainly in hides of country slaughter particularly in fallen hides. Animals should never be dragged on the ground, on the floors of slaughter house or against any hard surface in the course of moving or flaying, if animals can't be flayed while hanging, the hide should be removed immediately where the animal falls, the pulling of carcass on the hide abrades and remove a large area of the grain and allows sands or other abrasives to become embedded in the depth of the hides. This always results in poor grade of leather and the abrasive substances are detrimental to tanning machinery animal (FAO, 2001).

2.1 18 improper bleeding

If carcasses are not bled out properly at the time of slaughtering, blood remains in the vessels and capillaries of the hides and skins. This blood supplies ideal condition for the growth of bacteria and favors putrefaction along the blood vessels. The leather defect called "veiny" or "prominent blood vessel" arises from treating away by bacteria of the fibrous region surrounding the veins. When the leather is glazed, it receives less pressure in the channeled areas and the blood vessel show up (FAO, 1995).

2.1.19 Poor Pattern

It is meant, the shape or outline of the flayed hide when it is spread out flat. A regular pattern is very important to the tanner because it enables him to get the best cuts and the most useful part of the raw material. Poor pattern that is asymmetric shape of the hide or skin is considered damaging to hides and skins as far as cuts or scores are concerned. It is caused by incorrect line of ripping. The bleeding cuts must be directly at the centre of the throat. If the legs are not ripped open properly, the proportion of the hide in the shoulder, belly and butt section are not proper. Thus belly hide that should have been part of the belly may be on the butt or the shoulder area. "V" cut in the button either side of the tail downgrades the hide, according to the degree of

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damage to the pattern. It is very important that the bleeding cut, the belly cut, and the leg cut are made as straight (FAO, 1995).

2.1.20. Post Slaughter Defects

According to Desta (2008), there are numerous post slaughter defects observed in hide and skins.

2.1.21. Flaying defects

Flay defects are very common in Ethiopia because of lack of knowledge and experience of people who perform the job. Inadequate bleeding causes rapid development of bacteria along the blood vessels as a result of bacterial spread from the blood vessels, skin fibers in the vicinity are destroyed and open channels following the course of the blood vessels are formed through the skin surface. These defects show up in the final stage as a groove on the grain surface following the patterns of the damaged blood vessels (Kassa, 2005, 2006). The type of flaying equipment also plays a major role in the production of good quality hides. Almost all slaughter facilities except some modern abattoirs use hand flaying. As a result, flay cuts and gouges are a common feature on hides and skins.

A large number of skins contain defects due to careless and inefficient use of the flaying knife. Cuts, holes and scores produced through faulty flaying greatly diminish the value of skins. Use of an improperly pointed knife adds to the problem. Flaying on the floor causes more cuts and delays in flaying which makes the carcass cold and more difficult to flay. Other defects are due to unnecessary use of a knife, insecure position of the carcass, bad lighting, and lack of skill. Using a fist wherever possible will improve the quality. If the ripping line is t properly cut, the final shape will not be symmetrical and may affect the usefulness of the skin for commercial production of quality leather, ultimately affecting the value of the leather itself. Improper fleshing allows fatty tissues to remain on the skin, resulting in poor curing both by salting and air drying. In tanning and finishing, improper curing results in patches of different quality leather during later processing (Ahmed, 2000).

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2.2. Empirical Literature

2.2.1. Hide and skin production and marketing trend in Ethiopia

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, and 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. Most 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 (USAID, 2013).

However, the capacity to process hides and skins greatly exceeds domestic supply, particularly for raw sheep and goat skins (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 off take 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 goatskins in 2012/13 (CSA, 2013). The 7% off take rate for cattle falls significantly below the African average of 12.71% and the world average of 20.31%. However, the off take for sheep ranks slightly below the average level in Africa and the off take for goatskin ranks slightly higher than the African average, although both remain well below the world average (USAID, 2013). The percentage of

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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). 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, 2017).

The actual market supply of hides and goat's skins, unlike sheep's 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's skins, and 7.04 million goat's skins, the amount captured by tannery purchase in the same year is 48, 75, and 97% of the available potential of cattle's hides and goat's and sheep's 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 semi-finished 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).

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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.

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

According to Girma,(2002, the constrains to 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).

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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 collateral 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.

2.3 Conceptual frame work of the study

2.3.1 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

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revitalizing the hides, skins, and leather sectors through public/private partnerships (Mwinyihija, 2011).

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) contain 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.

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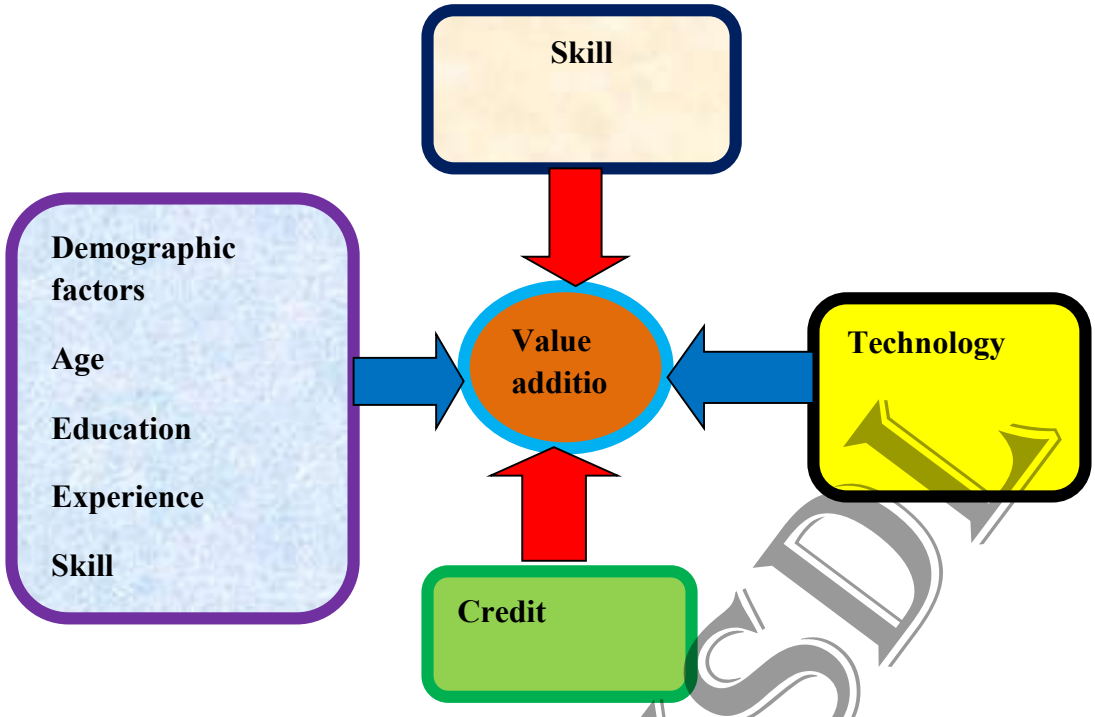


Figure 1: Conceptual Framework of the research

This conceptual framework is developed based on research factors which are identified from literature review. Above main factors have been identified through literature review as significant factors affecting on production of value added leather products (Finished leather in this case).

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CHAPTER THREE

RESEARCH METHODOLOGY

It is important to identify and understand the research approaches to be undertaken because it influences the research instruments to be employed and the ultimate goal of the thesis. In addition, its selection should be based on the problem of interest, resources available, skills & training of the researcher, and the audience for the research.

3.1. Description of the study area

Based on the concentration of leather and leather product industries, this study was conducted in, Sebeta and Bureau town. All the leather tanneries located around above areas the target of the investigation. According to the CSA report of 2010/2011, among the large and medium establishments of leather industries , most of them (90%) are found around Addis Ababa city administration including the above two towns.

3.2 Research Design

As indicated in the objective of the study, this study focused on assessing determinants of value addition in hide and skin tannery industry around Addis Ababa city: the case of Sebeta and Burayu.In order to address the research questions and also achieve the research objective, the researcher determined the suitable research design. A research design is arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in consideration. In fact, a research design is the conceptual structure within which research was conducted; it constitutes the blue print for the collection, measurement and analysis of data (Kothari, 2004).

This research had a descriptive and econometrics model where descriptive nature of design is used to describe the existing phenomenon as it exists and the econometrics model is used to see how the independent variables affects the dependent one. According to Kothari (2004), descriptive research includes surveys and fact-finding enquiries of different kinds. In connection

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with this in this study, descriptive survey design employed as it enables to understand the presently existing conditions, beliefs and attitudes of respondents

3.3 Research Approach

In this study, the mixed approach of the research method was employed. More specifically, sequential type of mixed approach where both the qualitative and quantitative data were collected and analyzed separately and combined/triangulated/ finally. Stressing the importance of mixed type of research design or approach, Creswell (2012) stated that the method enables to draw generalization on both qualitative and quantitative research and minimizing the limitations of both approaches. It also helps the researcher to have access to both quantitative and qualitative data. Moreover, it is a useful strategy to have a more complete understanding of research problems/questions, such as the following: comparing different perspectives drawn from quantitative and qualitative data; explaining quantitative results with a qualitative follow-up data collection and analysis; developing better measurement instruments by first collecting and analyzing qualitative data and then administrating the instruments to a sample; understanding experimental results by incorporating the perspectives of individuals developing a more complete understanding of changes needed for a marginalized group through the combination of qualitative and quantitative data and having a better understanding the need for and impact of an intervention program through collecting both quantitative and qualitative data over time.

3.4 Sampling technique and size

According to Ethiopia's Leather and leather products industrial strategy (2013-2025),in 2015 statistics, the leather industry was estimated to have 72 large and formal enterprises (33 tanneries, 17 shoe manufactures, 3 gloves makers, and 19 leather and leather goods industries). The target population for the study was all leather industries engaged in tenanting all forms of hide and skin that and produce semi finished and finished leather in Sebeta and Burayu town since most of them are concentrated in these areas.

There are several approaches to determining the sample size. These include using a census for small populations, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size. One approach is to use the entire population as the sample. Although the researcher used probability and non probability sampling techniques to select

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representative sample. First, the researcher selected the total number of tanneries size (4 in Burayu and 3 in Sebeta purposively because these both company could be a good representative for analyzing the issue under the study. Then, as the homogeneity nature of the population, the researcher used probability sampling which was random sampling technique. Thus, as the total numbers of tanneries were 2001 in this factory there are about 400 workers in the factory and the sample size was drawn from these workers proportionally. Accordingly as Yemane Taro 1967

$$n = \frac{N}{1+N(e)^2}$$

201\1+201(0.05)2=133

Where

N= total population

n= sample Size

e =sample error

3.5. Data Sources, Types and Data Collection Methods

The study used both primary and secondary sources of data. The primary data were those which were collected as a fresh for the first time and thus happen to be original in character (Kothari, 2004). The secondary data were collected from officially published and unpublished materials, reports; statistical bulletins, brochures and other material have been used for other necessary information.

The study was conducted based on data obtained from primary and secondary sources. Face-to-face personal interviews using semi-structured questionnaire was employed to collect primary data. The types of data collected are based on the need of each and every research objectives. Both open and close-ended types of questions are included in the questionnaire to collect information pertinent to the purpose of the study. The questionnaire was pre-tested before conducting the survey for appropriateness (clarity, adequacy and sequence of questions), and revised according to the feedbacks from pre-testing.

The researcher also tried to collect recent data related to Ethiopian leather tanneries and industry (such as; policy & strategy, capacity utilization, production and sales volume, export value, employee creation and wage, etc) in the form of study and journal in different organizations and associations such as; Ministry of Trade and Industry (Moot), CSA,

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Engineering Capacity Building program (ECBP), United Nation Industrial Development Organization (UNIDO), Leather and Leather Products Industries (LID), First Growth and Transformation Plan (GTPI) and Ethiopian Leather Industry Association (ELIA). In addition to collecting raw data, it is tried to have some discussion with experts who work in leather tanneries.

3.6 Questionnaire Design and Data Collection

3.6.1. Questionnaire Survey

A semi-structured questionnaire format which was pre-tested and employed to study the market chain and associate management practices. Secondary data was also obtained from relevant sources. The questionnaire focuses mainly on type of product sold or purchased suppliers and buyers, price, management along the market chain and constraints in the market and quality management of the products. A checklist, specifically prepared for the study, was used to guide the interviews with value chain actors.

3.6.2. Key informant interview

To cross check and complement the information collected using cross-sectional survey and to collect data which were difficult to obtain using cross-sectional survey key informants head of slaughter slabs and owners of hide and skin collection centers were interviewed on different issues such as annual hide and skin production and marketing system, price variation, trend and availability, quality management and constraints of hide and skin

3.6.3. Market monitoring survey

Market monitoring survey was carried out to collect data on marketing of hide and skin, selling prices variation and type of hide and skin (fresh, salted and Air dried) that were sold and purchased by preparing market monitoring sheet. Two representative market places Burayu and Sebeta were selected and monitored. Each market was visited in different market events (during normal/non-festivity, Christmas, Epiphany, fasting period of Orthodox Christians, month of Mowlid in Muslim holidays.

3.6.4. Field observation

Personal observation was undertaken to gather information on the management practice of hide and skin. Such observations focused on preservation methods of the hide and skin in the

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collection centers transportation methods and storage of hide and skins, defect assessment of hide and skin in the representative market.

3.7. Methods of Data Analyses

3.7.1 Descriptive statistics

An important step in any analysis is to describe the data by using descriptive and graphic methods. This study used an approach to the most commonly used numeric and graphic methods for describing data. These include tabular method, calculation of statistics for central tendency, variability, and distribution. Moreover, line graphs, bar graphs, histograms, and frequency polygons, etc. was employed to describe the data. The description and graphing of the collected data result in better analysis and presentation of data.

3.7.2. Econometric analysis

When any of the explanatory variables in a regression model are binary, one can represent them as dummy variables and proceed with the analysis using linear regression. However, the application of linear regression model when the dependent variable is binary is more complex (Pindyck and Rubinfeld, 1981).Binary choice models assume that individuals are faced with choice between two alternatives and their choice depends on their characteristics. Thus, the purpose of a qualitative choice model is to determine the probability that an individual with a given set of alternatives will make one choice rather than the alternative.

Therefore, a binary logit model was used in this study to estimate factor that affects practices of good governances. In estimating the logit model, the dependent variable was good governance practices, which takes the value of 1 if there is a practice and 0 otherwise. The mathematical formulation of logit model is as follows:

$$P_i = \frac{e^{zi}}{1 + e^{Zi}}$$ Where, P_i is the probability of perceiving value addition (1)

$$Z_i = a_0 + \sum_{i=1}^{n} a_i X_i + U_i$$ Where, $a_0 =$ Intercept, $a_i =$ Regression coefficients $U_i =$ Disturbance term, and $X_i =$ explanatory variables.

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The probability perceiving not adding value: $1-P_i = \frac{1}{1+e^{zi}}$ (2)

The odds ratio is $= \frac{P_i}{1-p_i} = e^{Z_i}$ taking the natural logarithm, then $Z_i = a_0 + \sum_{i=1}^{n} a_i X_i + U_i$

In this study, binary logistic regression model was employed to analyze the determinants of the value addition in the study area. Data were analyzed using STATA version14statistical software package

Definition of variables, terms and hypothesis

Hypothesis testing: It is an objective method of making decisions or inferences from sample data (evidence).

Level of significance: is the probability of rejecting the null hypothesis when it is true, (it also known as a type 1 error). This is decided by the individual but is normally set at 5% (0.05) which means that there is a 1 in 20 chance of rejecting the null hypothesis when it is true. And it denoted by (α).

Test statistic: It is a value calculated from a sample to decide whether to accept or reject the null (H0) and varies between tests. The test statistic compares differences between the samples or between observed and expected values when the null hypothesis is true.

P-value: the probability of obtaining a test statistic at least as extreme as ours if the null is true and there really is no difference or association in the population of interest.

P-values are calculated using different probability distributions depending on the test. A significant result is when the p-value is less than the chosen level of significance (usually 0.05).

A dummy variable is an indicator variable that reveals (indicates) whether an observation possesses a certain characteristic

Binary logistic regression (logit) analysis: is a unit/multivariate technique which allows for estimating the probability that an event occurs or not, by predicting a binary dependent out come from a set of independent variables.

Dependent variable: - Variable which is affected by independent one. In this case practices of good governance were affected by different factors. And has the value of 0 and 1 .1 if there is a practice and 0 other wise.

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The potential variables, which were supposed to influence the practice of good governance' in public institution, need to be explained. Hence, the major explanatory variables expected to have influence on the dependent variables are explained as follows:

Independent variables: Variables that is antecedent to the dependent variable.

Sex: This is dummy variable that takes a value of 0 and1. 1 represents male respondent while 0 stands for female. Therefore, in this study the variable was expected to have a either positive or negative influence on practices of good governance.

A value chain comprises of interlinked value-adding activities that convert inputs into outputs which, in turn, add to the bottom line and help create competitive advantage.

Value chain analysis Rubin et al. (2008, 13) described value chain analysis (VCA) as 'the process of documenting and analysing the operation of a value chain, and usually involves mapping the chain actors and calculating the value added along its different links'.

Educational level: - is a categorical variable that takes value of years of staying in school. Education makes individual's with the necessary knowledge of how to perceive, understand and interpret about value addition.

Age: A continuous that measured in years. Age matters the practice of good governance at any level. Therefore in this study the age was expected to have either positive or negative impact on the value addition

Skill: Sustained long-term growth in the leather sector will require the training of skilled staff in cattle breeding and management, and in a greater understanding of the influence that these activities have on the quality of hides and skins, as well as training in other stages of the supply chains

Technology: In our countries the leather industry was established as an export-based industry of semi-processed raw hides and skins with no consideration given to linking it to the development of a finished leather and leather products industry. Thus there is no incentive for the development of technical tanning skills and for obtaining access to new technologies. It challenged by Low literacy levels and the lack of an industrial culture in the labour force, A frequent lack of trained

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personnel at management, processing and supervisory levels, Lack of technical know-how. And limited knowledge of market trends in finished leathers has some factors mentioned.

In the study area these factors are the level of governments' investment in procuring tanning chemicals, tariffs and time lag between the period of placing order for those machines /spare parts and tanning chemicals and the actual time of this research.

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CHAPTER FOUR

RESULTS AND DISCUSSIONS

This section deals with the findings of descriptive analysis on hides and skins marketing chain and quality management focusing on marketing channels, the role of actors that involve in the marketing chain. It also discusses the analysis of quality management strategies among the marketing chain, presents the major factors that involve in marketing chain and quality management and determinants of value addition at the study area. Quantitative analysis was also done on data associated with price of product among different actors.

However, Out of 133 questionnaires, 100 questionnaires were returned back with completely filled and significant responses which are useful for the study. The returned questionnaires have 75% response rate and hoped sufficient to analyze the data with it.

In addition to questionnaires, interviews were conducted with some selected workers in both company experts .The information gathered through interviews is also used to complement the data collected through questionnaires. The data presentation is done in such a way that the response questions and data are grouped according to the respective research questions.

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4.1. Characteristics of Major Market Participants.

The demographic characteristics of respondents in terms of sex, educational level and age were described as follows. Respondents were 79% male and 21% females in *the town* based on their availability at the time of survey. In towns, about 84% the respondents were illiterate to On the other hand, from the total number of butcher men interviewed 48.7 %, 26.1% and 25.2% attended primary school, secondary school and above secondary school respectively. The average age of respondents was 38 and 25 years in the study area, and all were male. Similarly, the demographic characteristic of local middlemen was described in terms of educational level. Among the 10 middle men from , about 80 % of the middle men could read and write and 20%

of them have attended secondary school whereas in and none have attended secondary school. In The products commonly bought based on the order of their supply were sheep skin, goat skin and cattle hide.

4.2. Description of market chain and price determinants for hide and skin

4.2.1. Sources of the product and utilization of hide and skin

The source of product for collection centers were farmers, rural slaughter slabs, middlemen and butchers and abattoirs and the final destination of the product from collection center were tanneries. The main sources of the product for middle men were households and they bought the product from different market and around the entry of the town and sold to collection centers. The common sources of the product that were bought by collection centers and middle men were sheep skin and from the total respondents half of them were slaughter live animals 52% and 51% in the study area in the last three months. From those respondents about 90%are bluchers in the town, sold sheep skin in last three months.

4.2.2. Trend of Hide and skin production in the study area

Concerning with trend of availability the product respondents (butchers, middle men and abattoir) in the study area revealed that the accessibility of sheep skin and goat had been decreasing from time to time due to decreased slaughter rate. During this study traders replied that even if the availability of the product weren't constantly decrease the general trend of availability of the product decreased when compared to in the last seven years .The supply of hide and skin was mostly in special festivals. Results from key informant's interview show that supply of the product is highest in festivals like Ethiopian New Year ('*Addis Ames'*), Easter (*Fascia*), the finding of the True Cross ('*Maskell*'), Christmas ('*Gene*'), Epiphany ('*Ticket'*) and Ramadan in order of their highest supply.

4.2.3. Market chain of hide and skins in the study area

Majority of households and backyard slaughter respondents' sold hide and skin of slaughtered animals to middlemen and collection center in the study area. (. For those respondents who have noticed selling price variations, collection centers offer better price than middlemen traders.

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Similarly, interviewed butcher men, middlemen and abattoir works mentioned that the destination of their hide and skin was directly for collection centers.

The various agents involved in the marketing process of hides and a skin in the study area includes producers (farmer, rural slaughter slabs and butchers' and abattoir), middle men, collection centers/traders and tanneries. Producers were the initial sources and consist of individual meat consumers or farmers and butcheries and agents could be of middle men, collection centers and Producers at Study areas. The finding of this study supports the idea markets involve sales locations, sellers, buyers, and transactions. According to Kotler and marketing is managing markets to bring about profitable exchange relationships by creating value and satisfying needs and wants Armstrong (2003), .

4.2.4. Domestic utilization of hide and skin

This study also established that some of the hides and skins remain at the production site for local use without entering the formal market. The major raw material that is left for local use is cattle hide followed by sheep skin. (Table 1) lists the major household materials produced locally from cattle hide and sheep skin in the study areas. Goats were not commonly reared by farmer in the study area

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62% evaluated that price of hides is much higher when it was sold for local use than when sold to formal markets. Among the major reasons why hide and skins were sold for domestic utilization were: necessity for making household utility 61% product rejection 9% due to lower market price 18%.

Table 1 : **List of domestic materials produced from hide and skin with their local names**

Domestic materials	N	Percent
Response		
*Kurbet (*Cattle hide)	33	33
*Dibidab(*Sheep skin*)*	23	23
*Kenner(*Cattle hide*)*	30	30
*Cover of materials(*Cattle hide*)*	2	2
*Mechagna(*Cattle hide*)*	4	4
*Miran(*Cattle hide*)*	2	2
*Getaget(*Cattle hide*)*	3	3
*Kebeto(*Cattle hide*)*	3	3
Total	100	100.00

Source researcher survey 2020

4.2.5. Hide and skin prices and price determinants

According to the various respondents, the price of hide and skins fluctuates at different occasions. Collector's replied that the prices of sheep skin rich up to 100 birr when the demand for export is high. Figure 8 indicated that in The Study Area the average sheep skin selling price for farmer and backyard slaughter men was 53.86 birr where as in the average sheep skin selling price for farmers was 47.83 birr.

4.2.6. Hide and skin market information

The accessibility of market information to the farmer is not as expected. More urban respondents than rural respondents got informed mainly thanks to the utilization and 39% of ton of mobile phone whereas in more rural respondents are informed by sicking information from their acquaintances (Table1).

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Table 2: Access to market information

Methods of getting information	Response%
Personal observation	26.9
Others farmers	3.8
Telephone	38.5

Source own survey 2020

4.3. Hide and Skin Quality Management Practices

4.3.1. Preservation

All household and backyard slaughter respondents affirmed that they did not preserve hides and skin. About 82.6% farmers sold hide and skin fresh within 12 hours in 87.8% .Similarly, all middlemen didn't preserver hide and skin market rather they sold hide and skin immediately within 12 hours after buying the skin. Collection centers had their own storage and preservation place for cattle hide in abattoir so that immediately after butchers slaughter animal within 2-3 hours cattle hide preserve with salt in abattoir. Sheep and goat skin preserve after transport to another storage place from abattoir. After buying the product from producers, collection centers preserve the product with salt manually in both study area so that based on trader reply during directed interview the preserved hide and skin would stay up to 3 months in their storage without quality deterioration until transported to the tannery.

Different literature showed that n many livestock production systems, disease control are a major aspect of animal's husbandry. Any fatal disease that leads to the condemnation and destruction of the animal, or a serious disease that affects the productivity of the herd will have an adverse effect on the supply of hides and skins (Leach, 1995). The final part of the

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Pre-slaughter operations involve the supply and transportation of the animal to the market and ultimately the butchery. Special attention is required at this stage since any damage to the animal will not have time to heal before the animal is slaughtered, so any defect will remain on the hide or skins as an open wound. The range of different problems that can occur at this stage is extensive, and many others associated with improper transportation (LeachandIjaz, 1993).

Hides and skins supplied to the tanning industry generally come from two different sources, controlled slaughter in designated establishments and slaughters and deaths elsewhere. The latter includes the significant quantities of hides and skins sometimes available from special festivals (Leachand Ijaz, 1993 .Since the primary purpose of slaughter is to provide meat for human consumption, it should be done under the best possible conditions of hygiene and safety. This is most easily achieved in controlled slaughterhouses. This type of operation is also likely to provide the best conditions for hides and skins preparation. In those places where proper slaughtering facilities do not exist, it may be necessary to improvise and prepare carcasses under condition, which would not generally be considered acceptable (Leach and Ijaz, 1993).So the finding of this study is in line with literature argues that the Hide and Skin Quality Management Practices at preservation stage is very necessary.

4.3.2. Storage

Collection centers in both study areas had separate preservation and storage place for sheep skin, goat skin and cattle hide. Collection centers had retaining hall until preservation after buying and the product simply hanging on wooden bars. As it was stated in the finding of (Kassa, 2005), to produce high quality hides, storage conditions are as important as proper preparation and preservation. In Ethiopia, a good percentage of skins are damaged during storage and transportation, especially during the rainy season. Problems that occur in rural drying sheds are the major source of damage and loss of skins. Rural drying sheds are highly infested with skin damaging insects, have leaky roofs, and do not use slatted platforms. Skins become damaged and many are totally rejected. While the main portion of insect damage happens in rural drying sheds, insect damage also occurs in tanneries and warehouses of large traders.

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4.3.3. Transport

The interview responses collected from the respondents confirm that commonly carried hide and skins by their own to market place or collection centers by placing them in plastic bags. These were commonly sheep and goat skins. Similarly, middlemen carried skins with their own. On the other hand, collection centers transported the product with a camion to tanneries. In sebeta market collection centers use animal cart to transport hide and skin from buying market place to storage and preservation place.

4.3.4. Local quality standards

Findings from key informant interview and direct observation suggested that local collectors and middlemen use various criteria to identify the quality of the product they received from the producer/middlemen when they were buying hide and skin. Among those criteria freshness, flaying quality, knife cut, size, products from over-aged animals and roughness were observed. Traders totally rejected if the knife cut was at the center of the skin whereas if the knife cut was at the end of periphery or extremities, they bought with lower price. In the same manner, if the hide and skin was putrefied they total rejected the skin where as if the product shows bad smell but not putrefied they bought it with lower price. Aged and smooth skins were determined by simply massaging the product with hand. However, formal grading by categories of product was not done and this was done, as the collectors said, only tanneries.

4.4. Major factors affecting hides and skin quality and marketing

As majority of the respondents replied, there were a number of highlighted constraints that hamper further development of the marketing and quality of hides and skins sector in well as in the region as whole. The following production and quality marketing problems were indicated by respondents and various actors.

4.4.1. Production Constraints

Farmers raised number of problems related to livestock production and quality of hides and skins. Production Problems that constrained of farmers summarized in (**Table 3**) Parasites, other animal diseases and shortage of water are the major constraints..

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Table 3: List of factors affecting livestock production and hide and skin as per the opinion of respondents

Variables	N	Percent
Skin disease	**20**	**20**
Ecto parasite	**22**	**22**
Lack of feed	**0**	**0**
Lack of water	**17**	**17**
No problems	**41**	**41**
Total	**100**	**100**

Source: own design 2020

4.4.2. Market constraints

Quality of products, market price, market access and information were cited as most important market constraints in the study areas. Products could be rejected or prices lowered due to flay cuts for more than 75% of the respondents. The average selling price of sheep skin for farmers in was 47.83 birr and the price of petrified skin and flay cut skin was 10 birr in this case as the literature discusses There is usually a time lag of around 2 to 3 months for delivery from merchants to the tannery since wholesale merchants have to keep the skins stored in salt until a large enough number has accumulated for truck transportation (Kagunyu *et al.,* 2011;

4.4.3 Supply and Source of Hide and Skin

Key informants in both study area revealed that the supply of the product was highest in festivals during Ethiopian New Year ('Addis Ames'). These were due to in Ethiopian New Year (Addis Ames) no religious or culture exception, all societies who could slaughter animal might slaughters and these were why the reason of the product were highest supply in Ethiopian New Year. Similar findings were reported by Hadushet al. (2013); Ian Leach, (2009)who noted that most of the respondents from the interview results that the slaughter their animal was in holidays and other ceremonies and often religious celebrations the slaughter of animals may exceed ten times the normal daily rate.

Respondents on the trend of availability of hide and skin in both town revealed that the accessibility of the sheep skin and goat skin had been decreasing from time to time. The main reason regarding the decreasing hide and skin stated by farmer were it was due to the increasing

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the cost of live animal. Farmers slaughter one ox with groups (*Kircha'*) rather than slaughtering sheep and goat by own self. Key informants also mentioned that domestic utilization of the product also one important factor especially cattle hide which weren't commonly supply by farmers. The current study, related with Koloa and Moreki (2010) who noted that even though the consumption of meat had increased over the years, hides produced do not reflect such a scenario.

In this study, the source of product for collection centers were farmers, rural slaughter slabs, and butchers and abattoirs and the final destination of the product from collection centers were tanneries. The final destinations of the product for middle men were collection center. The current study was in agreement with Ahmed, (2000); Koloa and Moreki (2010) and Chemonics (2002).

On the quality of hide and skin the supporting documents are avail **As** a result of the by-product status, not enough attention is paid to maintaining the quality of hides and skins. Hides and skins are affected by pre-slaughter defects accumulated during the life of the animal; peri-slaughter defects during slaughter, and post-slaughter defects during handling, preservation and storage (Mwinyihija, 2010; 2011). In Ethiopia, the economic loss due to hides and skins defect is very high. These defects are encountered from the time the animal is born until the leather processing is completed. It is practically impossible to find out perfect animal hide or skin.

4.5 Marketing Chain of Hide and Skin

4.5.1. Utilization of hide and skin

Domestically farmers used hide and skin as a source of making house hold containers such as Kurbet, Dibidab, Wenber Mechagna, Cover of materials and others. This indicates all raw slaughtered were not properly supplied to market. Similar findings were reported by Hadushet al. (2013); Koloa and Moreki, (2010) and Magpie et al. (2006b)which reported that reported that hide and skin used as a source of various materials which includes making ropes, building houses, making milking containers, drums, seat covers.

4.5.2Access to market information services

The accessibility of market information to the farmer is not as expected. Only few respondents had an access to market information through telephone. The current study similar with Wayua and Kagunyu, (2012) report as the producers had limited information on market outlets of hides and skins.

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4.5.3 Marketing chain of hide and skin

In present study, producers (farmer, rural slaughter slabs and butchers' and abattoir), middle men, collection centers/traders and tanneries involved in the marketing process of hide and skins in both town. These findings were in agreement with Ahmed (2000) who stated that the market chain for raw HS consists of the primary producers/consumers, who were the initial sources (individual meat consumers, rural slaughter slabs, municipal slaughter houses, abattoirs, meat processing plants), agents of traders, collectors, local tanners, regional medium/small traders, regional/Addis Ababa big traders and tanneries.

Buyers played the leading role in price determination during purchasing at Woreda level and kebele market places. Based on key informant response it was due to the price of hide and skin determine by international market. When the export price of hide and skin were expensive tanneries bought the hide and skin with higher price, similarly collection center and middlemen bought hide and skin with considering the buying price of tannery. The current findings disagree with Kagunyu *et al*.(2011)who reported that prices of hides and skins are determined by the form in which they were sold; the prices of sun dried hides and skins (suspension dried and ground dried) were the lowest, followed by raw hide and skins which are fresh from the slaughter.

Survey results show that price of the hide and skin could not constant, it varies from time to time. Collector centers mentioned that it was due to the price variation of tannery and export demand of the hid and skin; market price of the hide and skin is high when the demand of the export of the product is high and the reverse is also true. These findings were agreed with Triple (2002) who revealed that the price of hides and skins fluctuates from year to year and within months according to supply and demand in the world market. Average selling price of raw sheep skins for farmers was 53.86.

4.6 Hide and Skin Management Practices

4.6.1 Preservation, storage and transport of hide and skin

In current study, about 82.6% and 87.8% respondents sold the product fresh within 12 hours in these results were higher than Hadush *et al.* (2013) report who revealed that 63% of the farmers sold the raw hides and skins after one day without adding any value addition or initial preservation systems. Moreover, about 17.4% of hide and skin in were sold hide and skin without preservation within 24 hours. These findings were lower than Hadush *et al.* (2013) report

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who stated that 23 % of the respondents sold after two or more days which were also not proper for the quality, price, and benefit of the raw material.

Collection centers in both towns a mentioned that the preserved hide and skin would be stay up to 3 months in their storage without quality deterioration until transported to the tannery. These findings disagree with Ian and Wilson (2009) who reported that preserved hides and skins may be stored for up to a year while waiting further processing. These variation might due to the present findings were starting from preservation until transportation whereas their findings were include for others further processing.

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Collection centers properly store the hide and skin in their storage place after preservations. The current finding is at variance with the report of Kassa (2005) who disclosed that good percentage of hide and skins were damaged during storage especially during the rainy season.
Farmers transport the product from their house with on foot packing with plastic bag to collection centers where as collection centers transport the product with camion

Similarly, middleman's transport the hide and skin by own self and animal cart which also prone to damage with dirty materials. These finding were supported with (Ahmed, 2000; Hadush *et al.* (2013) and Kassa, 2005) which revealed that poor handling during loading and unloading may damage quality of hides and skins. So the current study shows that among the factors of farmer for the quality deterioration, value or price and rejection for the raw hides and skins was transportation mechanism before reaching the collection centers.

4.6.2 Hide and skin quality determination and rejection

Results from observation and interview show that collection centers and middlemen used various criteria to determine the quality of hide and skin. Among criteria those knife cut, size, roughness, freshness, and pattern and aged were observed. Similar findings were reported by Chemonics, (2002) who stated that weight, size, patches, and holes are just a few of the parameters that determine the value of hides and skins. The present findings differs from the report of Triple (2002) in that he disclosed that grading of hides and skins is designated traditionally. In the study even if collection centers and middle men used certain parameters to determine the quality of hide and skin were appreciated standard grading systems were done in tannery.

Among the producers (farmers) who were interviewed all of them replied that price lower or rejection of the hide and skin during selling of the product in 86.9% of the total respondents replied that price lower or rejection of t he hide and skin during selling of the hide and skin in These findings were supported with Kagunyu *et al*. (2011) report who revealed that among

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The producers who were interviewed 85% said that their hides and skins have been rejected at one time or the other.

Respondents gave various reasons why hides and skins were rejected which included: flay cut, putrefaction, small size, smooth skin and poor pattern. These findings were disagree with Kagunyu *et al.* (2011) who reported that various reasons of why hides and skins are rejected which included poor methods of curing hides such as using the sun drying methods, mechanical damage of hides and branding. Smooth skin also rejected by collection centers these might be due to breed type, nutrition status and age of the animal. Similarly, in the present study small size skin also rejected by collection centers. Similar findings were reported by Yacob (2013) who stated that small size skins that are downgraded due to poor quality are unwanted by tanneries.

4.7 Hide and Skin Quality and Marketing Constraints

4.7.1 Production constraints

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About 18.2% respondents in 23.2% in replied that lack of water during the dry season hampered livestock production which ultimately affected skin and hide production. This had negative impact on hide and skin quality after the animal slaughter. However, in other studies scarcity of water and its impacts on quality of hide and skin weren't reported.

Husbandry related quality defects of the products were livestock skin diseases like small pox and parasites accounted to the deterioration of the quality 43.2.These findings were agree with Behr,(2009) who stated that most important husbandry related quality defects of the products were livestock diseases and parasites, like mange were indicated as the major hindrance of quality by 64.5% of the sample farmers

4.7.1. Quality constraints

The major factor affecting the quality of hide and skin is poor hand flaying of farmers. In the study poor flaying causes holes and cuts on the hides and skins, which results. Price lower and also rejection by collection centers due to poor quality. These finding were agree with Kagunyu *et al*. (2011); Kassa, (2005, 2006) and Mwinyihija, (2010) findings who revealed that flay defects are very common in Ethiopia because of lack of knowledge and experience of people who perform the job.

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4.7.2 Financial constraints

Lack of finance was a major constraint in market place for collection centers. Collection centers in market mentioned that the problems were aggravated due to delayed payments from tanneries. The current study were related with Wayua and Kagunyu ,(2012) who noted that finance were a major constraint there were very few financial institutions or banks that were willing to lend money to hides and skins traders as they do not have acceptable collateral.

4.8 Issues under the Determinants of Value Addition in Hide and Skin Tannery

The result of the composite analysis of the collected data is given in Table below. The adjusted t-values is 6.578, which indicated that only about 68 percent variations in the value addition to the study area leather was explained by the identified variables: tanning machines, spare parts, chemicals, tariffs and time lag and others. The balance was however accounted for by variables not captured in the model. These might include factors such as inflationary rate and government policies on controlling international trade and so on. This finding corroborates earlier position by Ihuoma (1984) that government policies on importation of goods inhibit the inflow of foreign goods into the country.

The estimated t-values showed that only tanning machines tariffs and time lag had significant relationship, at **5 percent level**, with the value addition on raw leather materials. With a tariff cut on imported tanning machines many operators of tanneries will be able to afford the equipment being purchased from overseas. A Review of the physical control measures such as 100 percent inspection of imported items could minimize delay in taking delivery of these items from overseas. The town Customs Services (NCS) could be more empowered in terms of provision of quality personnel so as to ensure an efficient

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4.9 Determinants of value addition in the study area

Under this objective determinant of value addition in hide and skin in the study area was analyzed by using binary regression model and interpreted based on coefficient of significance variable on dependent one.

4.9.1 Result of binary logistic regression model

Using econometric model determinants for value addition in hide and skin were analyzed. Prior to the estimation of the model parameters, it was important to look into the problem of multicollinearity among the explanatory variables. Variance inflation factor (VIF) was used to check multicollinearity problem among the explanatory variables whereas, contingency coefficient was used for dummy variables. Similarly, the test result of contingency coefficient revealed that there was no serious association between the hypothesized discrete variables, since the respective contingency coefficients for all independent variables were near to zero. In the same way, heteroscedasticity was tested by using Breusch-Pagan/Cook-Weisberg test. This test resulted in the rejection of the existence of heteroscedasticity hypothesis as **(p = 0.05)** and there was no need to make the standard error robust

4.10.2 Binary logistic regression results

The results of estimation of the binary logit regression model using 8 independent variables were hypothesized to influence of value addition Table (4.5). Out of these 8 variables 6 variables were significant at 5 % probability level. And one variable is significant at 10% probability level However, only 1 variable was non-significant. The variables that appeared significant were Age, education level, Experience skill, Credit, Technology, and cost

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Table 4: Binary logistic regression out comes.

Logistic regression		Number of obs	= 200
		LR chi2 (8)	= 113.77
		Prob > chi2	= 0.0000
Log likelihood = -60.75069		Pseudo R2	= 0.4836

Value	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Age	-1.39241	.35705	-3.90	0.000	-2.09222	-.6926095
Experience	-2.220559	.5192601	-4.28	0.000	-3.23829	-1.202828
Education	4.877737	.9004209	5.42	0.000	3.112945	6.64253
Credit	2.23272	.7248531	3.08	0.002	.8120354	3.653407
Techno	2.493352	.7246447	3.44	0.001	1.073074	3.91363
Skill	-7.818465	1.917446	-4.0	0.000	-11.57659	-4.06034
Cost	1.6215	.6123916	2.65	0.008	.4212345	2.821765
Quality	1.198825	.5654875	2.12	0.034	.09049	2.30716
_cons	-5.503321	1.819883	-3.02	0.002	-9.070225	-1.936417

Source: researcher own design, 2020

4.11 Marginal effects of independent variable

The explanations of result of binary logit model for each significant variable were discussed below.

Educational level: Formal education enhances civil servants ability to analyze and respond to new events and information's after that, for good participation of value addition .In this study also it was found to be positively related with the value addition in hide and skin industry, and was significant at 5% probability level. The interpretation of the marginal effect implied that if other factors are held constant, the value addition would be increased by a factor of 48.6 percent as education level increased by one level **Table (4).**

Age This variable is found to be positively related with value addition and significant at 5% probability level. The marginal effect of adding value increased by a factor of **14 percent** for each increased a year of workers with other factors held constant.

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Credit taken for hide and skin production)**:** Credit use by the sample respondents positively affects the supply of live hide and skin to the market by **0.282**. The value obtained from the sale of hide and skin for sample respondents who get access to credit has shown a increase by **0.282** than those who do not access credit and at 5% level of significance

Table 5: Marginal effect of independent variable

Marginal effects after logit

y = Pr (Value) (predict)

= .11241605

Variable |	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]	X
Age |	-.1389333	.02992	-4.64	0.000	-.197567 -.080299	2.355
Experience|	-.2215645	.06831	-3.24	0.001	-.355445 -.087684	2.5
Education |	.4866942	.11118	4.38	0.000	.268786 .704602	2.235
Credit*|	.2824394	.10892	2.59	0.010	.068968 .495911	.385
Technology* |	.3921786	.14601	2.69	0.007	.105995 .678362	.24
Skill*|	-.2983324	.07322	-4.07	0.000	-.441843 -.154822	.155
Cost*|	.1931089	.08795	2.20	0.028	.020732 .365486	.38
Quality* |	.1313546	.07049	1.86	0.062	-.006807 .269516	.42

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Source: own survey, 2020

(*) dy/dx is for discrete change of dummy variable from 0 to1

Skill: This variable exhibited as expected, and was significant at 5% probability level. This indicates a competent, fair and knowledge based value addition of the workers in tanning industry are more likely to increase in value in the skin and hide sectors. This may be due to more easily understanding about the operation of the technology. The interpretation of marginal effect implies that if other factors are held constant the marginal effect of in favor of vale addition in tanning industry is increases by a factor of 30 percent who have related professions than those who have no related professions. **Table (5**), which indicates workers who have skill of tanning more practice than other who do not have.

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Technology: Technologies play a leading role in skin and hide industry. Therefore industry which is very modern and out dated is not equal processed the raw materials. And technology one factors which affected the value of skin and hide. In this study technology also positively related the value addition of the skin and hide. The interpretation of the marginal effect implied that if other factors are held constant, the marginal effect of value addition increased by a factor of 39 percent as technology increases by one unit.

4.12 Model summary

Table 6: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	121.501[a]	.434	.627

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Source: own survey 2020

As Table (6) contains that the **Cox & Snell R Square** and **Nagelkerke R Square** values, which are both methods of calculating the explained variation. Therefore, the explained variation in the dependent variable (value addition) based on the model was ranges from **43.4 % to 62.7%,** depending on the Cox & Snell R^2 or Nagelkerke R^2 methods, respectively

4. 13 Variable in the equation.

Table (18) shows the contribution of each independent variable to the model and its statistical significance. The Wald test (**Wald** column) was used to determine statistical significance for each of the independent variables. The statistical significance of the test is found in the "**Sig.**" column. From these results Age **(P=.000**) Education **(P=.000)** Experience (**P=.000**) Credit **(P=.002**) Technology **(P=.001)** and Skill **(P .000)** added significantly to the model/prediction, and give the information of the variables **in the equation** table to predict the probability of an event occurring based on a one unit change in an independent variable when all other independent variables are kept constant.

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Table 7: Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Age	-1.392	.357	15.208	1	.000	.248	.123	.500
	Experience	-2.221	.519	18.288	1	.000	.109	.039	.300
	Education	4.878	.900	29.346	1	.000	131.333	22.487	767.033
	Credit	2.233	.725	9.488	1	.002	9.325	2.252	38.606
	Technology	2.493	.725	11.839	1	.001	12.102	2.924	50.080
	Skill	-7.818	1.917	16.626	1	.000	.000	.000	.017
	Cost	1.621	.612	7.011	1	.008	5.061	1.524	16.806
	Quality	1.199	.565	4.494	1	.034	3.316	1.095	10.046
	Constant	-5.503	1.820	9.145	1	.002	.004		

a. Variable(s) entered on step 1: Age, Experience, Education, Credit, Technology, Skill, Cost, and Quality.

Source:-own design, 2020

4.14 Collinearity/ Multi collinearity of the statics

Variance inflation factor (VIF) was used to check multicollinearity problem among the explanatory variables and the result of multicollinearity test indicated that there is no serious problems among the explanatory variable since the values of each independent variables is near to zero or not more than ten whereas, contingency coefficient was used for dummy variables. Similarly, the test result of contingency coefficient revealed that there was no serious association between the hypothesized discrete variables, since the respective contingency coefficients for all independent variables were less than 0.75 In the same way, heteroscedasticity was tested by using Breusch-Pagan/Cook-Weisberg test. This test resulted in the rejection of the existence of heteroscedasticity hypothesis as ($p = 0.05$) and there was no need to make the standard error robust

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Table 8 : Collinearity statics

Coefficients[a]									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.048	.173		.276	.783	-.293	.389		
	Age of processors	-.107	.025	-.274	-4.360	.000	-.156	-.059	.752	1.331
	Experiences of workers in tanning	-.258	.045	-.436	-5.741	.000	-.346	-.169	.516	1.937
	Education level of processors	.429	.062	.870	6.890	.000	.306	.552	.187	5.357
	a access of credit in the factory	.243	.071	.265	3.412	.001	.103	.384	.492	2.031
	availability of relevant technology	.287	.077	.274	3.730	.000	.135	.439	.550	1.818
	availability of skilled Labour in the factory	-.650	.164	-.527	-3.976	.000	-.973	-.328	.169	5.903
	Price of hides in the factory	.111	.057	.120	1.927	.055	-.003	.224	.764	1.309
	Quality of skins and hides produce	.148	.055	.164	2.700	.008	.040	.256	.811	1.233

a. Dependent Variable: value addition in the factors

Source :Researcher own data(2020)

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CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Major Findings and Conclusions

the study on determinants of value addition in hide and skin tannery industry in and around Addis Ababa city with the objectives of describe the market chain for raw hide and skin, assess quality management's practices and identify factors affecting both marketing and quality of hide and to asses determinants of value addition in hide and skin tannery industry in and around Addis Ababa city

The following conclusions were forwarded based on the results:- Producers (farmer, rural slaughter slabs and butchers' and abattoir), middle men, collection centers/traders and tanneries involved in the marketing process of hides and skins in both town. Majority of house hold and backyard slaughter respondents' sold skin of slaughtered animals to middlemen and collection center in both town, whereas butchers and abattoirs directly sold for collection centers. Cattle hide commonly used for domestic purpose for farmers. The average selling price of raw sheep skins for farmers were 53.86 birr and 47.83 birr in these town,. Buyers played the leading role in price determination during purchasing market places. Collection centers and middlemen used various criteria to identify the quality of the hide and skin when they were buying. Farmers' commonly carried skins by their own to market place or collection centers by placing them in plastic bags while, collection centers transported the product with a camion to tanneries. the discussion and analysis results showed that majority of the quality problems which were observed in collection centers were from poor hand flaying or knife cuts, due to skin disease, parasite lack of water and poor animal husbandry practices. The quality constraints of hides and skins finally caused rejection hide and skins and higher price incurred at collection centers and tanneries.

5.2 Recommendations

Based on the finding following recommendations should be forwarded:

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- ✓ There need be forwarding adequate information for respondents to sell hide and skins to collection centers or traders in order to sell their hide and skins with better price.
- ✓ Convincing of respondents for supplying the hide and skin especially cattle hide to the market and decreasing domestic use of cattle hide were needed.
- ✓ The concerned bodies should reinforce and mainstream the system of buying of hides and skins on standard grade basis for collection centers.
- ✓ Creating awareness on the basis of hand flaying for farmers should be needed in order to minimize the financial loss of the product and awareness of rural farmers to supply hide and skin to the market should be necessarily.
- ✓ In order to utilize our livestock by-products effectively and decrease the prevalence of skin disease and parasites; adequate veterinary services should be implemented.
- ✓ The government and private institutions should organize individual middlemen under micro for proper management of hide and skin and producing employment for them.
- ✓ The government should create market opportunities for collection centers and giving certain incentives for further initiative work of them.

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7. APPENDEX

Questioners

I am at present conducting research in the Ethiopian leather or hide and skin manufacturing companies, atWolkite University College of Business and Economics, Masters in Development Economics. The objective of the questionnaire is to assess the current value addition status, its determinants and constraints and opportunities in leather tanneries value addition in and around Addis Ababa city administration.. I should appreciate and like to express my gratitude if you would complete the attached questionnaire or direct it to the person in charge with this responsibility. Moreover, *your response is very crucial to the success of the survey*. All information will be treated in the highest confidential and the respondent's name (optional information) will not be revealed. **Thank you for your committed cooperation, time and consideration!!**

***Section I*: Preliminary Information**

Respondent Profile

1. Your current position in the company:_____

2. Qualification level: College diploma BA/BSc MA/MSc & Above

3. Your work experience in this company:_____years

Hides & skins for middle men interview schedule

Respondent ID ---------- Date----------

Zone, Woreda---------- Peasant Association (Kebele) ------

Where are you common sources of skin and hides? A) Households B) backyard slaughter C) butchers D) others specify_____

Which one is the most common product you buy? A) Sheep Skin B) Goat Skin C) cattle hide

What is the trend of availability? A) Increasing B Decreasing C) constant

If availability is reducing what do you think is the reason? A) Animal number decrease B) slaughtering rate decrease C) many middlemen D) local use E) other channels of market F) others specify_____

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What is your current buying price for A) sheep skin---- B) goat skin--- C) cattle hide---?

Where do you sale the products? A) to collection center B) to other middlemen C) other specify_____

What is your current selling price for A) sheep skin---- B) goat skin--- C) cattle hide-?

Who fixes the price? A) The buyer B) myself C) national price D) other specify_____

9. Have you ever got your skin and hides rejected or price lowered? _____

What are the common reasons_____

10. What criteria do you use to buy the product? A) Size B) undamaged by knife C) freshness D) pattern E) roughness_____

11. What is your best preference? A) Fresh B) Dry C) Preserved/Salted

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12. In what state do you sale the products? A) Fresh within 12 hours B) unpreserved in 24 hours C) unpreserved in 48 hours D) dried E) salted

13. How do you transport the products? A) Carry B) animal transport C) camion D) other specify_____

14. Did you use additional Preservation to Hides & Skins before taking to terminal market?

a) Yes b) No

15. If yes, what method of preservation did you use? a) Salted b) Sun dried

c) Other (specify) ------

16. What defects did you observe in the raw hides you purchased?

a. Flay cut b. putrefaction c. small size d. Poor pattern f. disease due to black leg and small pox p) smooth skin h. improper bleeding and aged animal

17. What technical and administrative support do you get from concerned Institutions?

a) Training b) Technical follow up c) Quality assurance

d) Different incentives e) Experience sharing f) no technical support

Collection centers/ traders interview schedule

1. How long have you been in Hides & Skins trading?

a) Less than a year b) 1 to 4 years c) 5 to 10years d) Over 10 years

2. at what time did the supply of hides and skins became high?

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a) Ethiopian New Year (Mesmerism) b) Ethiopian X-mass and 'Ticket' c) Ethiopian Easter d) Other (specify) ------

3. Where are your common sources of skin and hides? A) households B) backyard slaughter C) butchers D) abattoirs E) middlemen F) others specify_____

4. Which one is the most common product you buy? A) Sheep Skin B) Goat Skin C) cattle hide

5. What is the trend of availability? A) Increasing B) Decreasing C) constant

6. If availability is reducing what do you think is the reason? A) Animal number decrease B) slaughtering rate decrease C) many collection centers' D) local use E) other channels of market F) others specify_____

7. What is your current buying price for A) sheep skin---- B) goat skin--- C) cattle hide--?

8. Where do you sale the products? A) To another collection center B) to tannery C) other specify_____

9. What is your current selling price for A) sheep skin---- B) goat skin--- C) cattle hide-?

10. Who fixes the price? A) The buyer B) myself C) national price D) other specify_____

11. Have you ever got your skin and hides rejected or price lowered? _____

What are the common reasons_____

12. Did you know the market price before you sell your Hides and Skins? a) Yes b) No

13. If yes, how did you get information on price of Hides and Skins in the market?

A. Other Hides and Skins collectors' b. personal observation

c. Radio d. Telephone e. Other (specify) ----------

14. How did you qualify the reliability of the information? a) High b) moderate c) low 66

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15. How did you qualify the timeliness of the information? a) Timely b) outdated

16. How did you qualify the adequacy of the information? a) Adequate b) moderate c) inadequate

17. Is there price variation of Hides & Skins in the market? a) Yes b) No.

18. If yes, what could be the reasons you think? a) Tannery price variation/setting b) Price increases on holiday's c) Price decreases or increases seasonally d) Traders having big capital can increase or decrease the price of the day e) Export price variation f) I do not know g) Other (specify) ----------

19. When the price variation reaches high? a) During holidays b) Other than holidays

c) It depend on the price of export price variation d) others

20. What criteria do you use to buy the product? A) Size B) undamaged by knife C) freshness D) pattern E) age f) roughness g) others

21. Do you grade the products when you buy? _____

22. What defects did you observe in the raw skins and skin you purchased?

A) Brand b) flay cut c) poor pattern d) small size e) putrefaction f) improper bleeding g) gouge marks

a. Brand c. Poor pattern d. Fallen hides / skin. Putrefaction f. improper bleeding g. others (specify) ---------- Put in order of importance ……

23. What kind of defects leads you to reject the products_____?

24. In what state do you sale the products? A) Fresh within 12 hours B) dried C) salted

25. What is your best preference? A) Fresh B) Dry C) Preserved/Salted

26. How do you transport the products? A) animal transport B) camion D) other specify_____

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