Assessment on Challenges of Hide and Skin Production and Marketing in North Shewa Zone, Oromia, Ethiopia

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Abstract
A cross-sectional study was employed to assess challenges of hide and skin production and marketing in North Shewa Zone. Three districts (Girar Jarso, Jida and Hidabu Abote) were purposively selected based on livestock population and accessibility to transportation. From each district, three representative kebeles were selected randomly. Four hundred households were interviewed to assess challenges on production and marketing of hide and skin in the study areas. The primary data were collected from producers, traders, key informants through interview, field observation and focus group discussion. The result of this study revealed that the mean slaughtered animals per household were 2.67, 0.78 and 0.76 for sheep, cattle and goat, respectively. Majority of live animals hide and skin have a poor quality (damage), from those damages; losses of hair, whip Lash and yoke mark were 1st, 2nd and 3rd ranked respectively which is cause due to improper managements. While defects caused during slaughtering mentioned were fly-cut/hole (66.57%) and dirt (manure and blood) (17.10%). This damage was caused by careless/lack of awareness and use of improper knife for ripping and flaying. Majority (87.32%) of respondents are sold the fresh hide and skins were the others are sold sun dried (9.01%) and salted (3.66%) hide and skin to the market due to low demands of preserved hide and skin in market. The constraints of hides and skins production was ranked, lack of improper use of preservation was the first rank, lack of awareness was the second rank and livestock disease and parasite was the third ranks of constrains in the North Shewa zone. The constraints of hides and skins marketing was ranked, low price offer was the first rank, lack of competitive market was the second rank and fluctuating price was the third ranks of constrains in the North Shewa zone. Based on this result it could be recommended that extensive training and extension service should be given on live animal management, such as feeding and housing to avoid pre slaughtering defects. Awareness creation programs on peri and post slaughtering defects through extension service is very crucial to improve the quality of hide and skin for maximizing income.
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1. INTRODUCTION
1.1. Background Information
Livestock plays a significant role in the economy of the country, they provide food (milk, meat, and egg), hides and skins, draught power for cultivation; serve as a means of transportation and as a saving. They are also kept for prestige as an indication of social status and wealth in the society

Among others, hides and skins are one of the most essential livestock by-products produced for different purposes including the domestic consumptions in the form of carpet, mattress and leather ropes. Moreover, this animal by products can also used as an export commodity which serves as the source of foreign currency especially in developing countries like Ethiopia (CSA, 2006/7).

Hides are broadly defined as external integument of large animal, while skin is provided by smaller animal. The major sources of hides and skins from domestic animals are cattle, sheep and goats. However, hide and skin can also be obtained from other species of domesticated and wild animals. Hide is obtained from buffalo, horse, camel, elephant, and skin is obtained from pig, ostrich, rabbit, mink, snake, frog and shark (FAO, 1995). In developing world, they are almost never exploited to anything like their full potential. In majority of developing countries, despite the fact that they have enormous livestock population, their contribution to growing supplies of hide and skin on the world market is very unreasonable (FAO, 2009). This reason is also true for Ethiopia that

possesses huge livestock resources which account 59.5 million cattle, 30.7 million sheep, 30.2 million goats, 1.21 million camels, 59.53 million poultry, 2.16 million horses, 0.41 million mules and 8.44 million donkeys (CSA,2017). Based on annual off take rates of cattle 7.12%, sheep, 31.11% and goats, 35.37%, the potential production is estimated at 3.7 million cattle hides, 8.7 million sheep skins and 8.1 million goat skins in 2011/2012 (FAO, 2011). Hides and skins are the most valuable export item for the country other than coffee (ECBP, 2009), with export earnings for the country was US$895, 04,000 in 2014 (Wegeyehu, 2016). The leather industry is one of the fastest-growing economic sectors in Ethiopia (Bayou, 2007).

Hides and skins are the basic raw materials for the leather industry. There are 32 tanneries converting hides and skins to different types of finished leather. There is a possibility of producing up to 500 million square feet of finished leather per year. This industry relatively, having a better position due to mature in its age and huge investment (LIDI, 2017). The capacity to process hides and skins, particularly for raw sheep and goat skins greatly exceeds domestic supply. These tanneries have an average daily soaking capacity of 107,850 pieces of sheep skin, 51,550 pieces of goat skin and 9,800 hide (USAID, 2013). However, they are not working to full capacity, because the availability and the potential supply of hide and skins depend on the scale of meat production, not on the size of livestock population (Bisrat, 2013). The industry in the country has tremendous potential for domestic and foreign exchange earnings and the capacity to attract profitable foreign investment. Ethiopia had very good potential to produce substantial quantities of hide and skins over the last 10 years; however there are indications that quality of raw hide and skins supplied has been deteriorating with an increasing number of poor grades (Bisrat, 2013).

1.2. Statement of the Problem
Hides and skins are still given little consideration to the care required for collection, preservation and processing to the high-quality leather (Adugna, 2004). The main problems contributing to the downgrading of hides and skins can be natural and man-made defect including inappropriate management of animals, faults during slaughtering and improper handling of hide and skin before it reached at tannery (Zenaw and Mekonnen, 2012). This has resulted in an ever increasing number of complaints about the quality of hides and skins available in the market of Ethiopia. On the other hand, studies on challenges of hide and skin production and marketing have not been conducted so far in North Shewa Zone, Oromia. However, information is needed in this regard to take any remedial measures. Therefore, this study was conducted with the following general and specific objectives

General Objective;
➢ To assess hide and skin production and marketing challenges and opportunities in selected districts of North Shewa Zone, Oromia Region ,Ethiopia

Specific Objectives;
➢ To assess the major challenges and opportunities of hide and skin production and handling practices in selected districts of North Shewa Zone, Oromia.
➢ To assess the challenges and opportunities of hide and skin marketing in the study areas.

2. MATERIALS AND METHODS
2.1. Description of the Study Area
This study were conducted from October 2018 to October , 2019 at Hidabu Abote, Girar Jarso and Jida districts of North Shewa Zone, Oromia regional state, Ethiopia.

Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), North Shewa Zone has a total population of 1,431,305, of whom 717,552 are men and 713,753 women; with an area of 10,322.48 square kilometers. The zone has a population density of 138.66; of which 10.25% of them are urban inhabitants. A total of 314,089 households were counted in this Zone, which results in an average of 4.56 persons to a household, and 303,609 housing units (CSA, 2007). Mixed crop and livestock farming system is the mode of agriculture in the zone which are highly important for the livelihood of the local population. According to CSA (2016/17), there are about 1,676,748 cattle, 1,305,774 sheep, 316,403 goats, 88,383 horses, 311,996 donkeys and 6,827 mules, 1,176,886 chickens and 84,142 bee hives in the Zone.

2.2. Study Design
A cross-sectional study was used to assess the major challenges and opportunities of hide and skin production and market at the level of producers.

2.3. Sampling Techniques and Sample Size Determination
Three districts were purposively selected based on livestock population and accessibility to transportation. From each districts three kebeles was selected based on livestock population and hide and skin production capacity of the kebeles. Furthermore the number of the respondents was proportionally divided among the study districts and kebeles within the district.

The Sample size was determined according to the formula given by (Yamane, 1967);

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

Where, n= required sample size, N= Population size (household), and e= Marginal error (0.05)

2.4. Methods of Data Collection

The primary data were collected from producers, traders, key informant through interview, field observation and focus group discussion.

Interview was done by using close and open ended semi-structured questionnaires. The developed questionnaires were pretested, modified and reframed based on the respondent's perception before administering, and then was employed to the respondents to study the challenges and opportunities of hides and skin production and marketing. The collected data was like, when and where animals were slaughtered, types of animal slaughtered, marketing (prices, transportation), type of preservation and storage of hide and skins.

2.4.1. Key informant interview

To cross check and complement the information a key informants interviews were held from Development Agents and owners of hide and skin warehouses on different issues such as hide and skin marketing, price variation, trend and availability, quality management and constraints of hide and skin production.

2.4.2. Focus group discussion (FGD)

In each of the study district a group discussion was held with purposively selected members to complement the information gathered from individual respondents. This focus group discussion member involves local leader and elderly female and male member of the society who had long experience and knowledge of hide and skin management practices. For the FGD, 12 members (five elders, 4 male and 3 females) were selected from each kebeles in each districts.

2.4. 3. Field observation

Personal observation was undertaken to gather information on the management practice of hide and skin. Such observations were focused on preservation and storage methods of hide and skins in warehouse, transportation methods and defect assessment techniques practices by buyers in marketing areas.

2.5. Data Management and Analysis

The data was managed and fed into Microsoft Excel and analyzed using SPSS (Version 20, 2012) software. Descriptive statistics such as, means, frequency, standard deviation and percentages were analyzed and presented by tables. Constraints and opportunities of hide and skins production and marketing were identified and ranked. The priority index was employed to rank the identified constraints and opportunities using the following formula.

Priority index (PI) = $\frac{(F1 \times 3) + (F2 \times 2) + (F3 \times 1)}{F T}$

F1= Frequency of the first rank   F2= Frequency of second rank
F3 = Frequency of third rank   FT= Frequency of total respondents

3. RESULT AND DISCUSSIONS

3.1. Household Characteristics

The household characteristics are presented in Table 1. The result of this study revealed that about 87.25% of the respondents were males and 12.75% were females. The age profiles of the respondents were 5.5%, 41%, 41%, and 12.5% for 15-30, 31-45, 46-60 and >60 years, respectively. The family size of the respondents were 51.75%, 47.25% and 1% for 1-5, 6-10 and >10 members, respectively. Almost 65% of respondents were illiterate, 12.75% only read and write, 12% completed Primary School, 9.75% joined Secondary School and only 0.5% takes Diploma.

Table 1 Household characteristic of the respondents in the study areas

| Variable | Category | Study districts | | | |
| | | G/Jarso | Jida | H/Abote | Over all |
		%	%	%	%
Sex of respondents	M	80.59	91.72	89.47	87.25
	F	19.40	8.27	10.52	12.75
Age of respondents	15-30	7.46	9.02	0.00	5.5
	31-45	55.97	40.6	26.31	41
	46-60	20.89	42.85	59.39	41
	>60	15.67	7.52	14.28	12.5
Family Size of respondents	1-5	46.26	58.64	50.37	51.75
	6-10	53.73	39.84	48.12	47.25
	>10	0.00	1.5	1.5	1.00
Educational Level of respondents	Illiterate	67.16	77.44	50.37	65
	Primary school	5.97	8.27	21.8	12
	Secondary school	13.43	8.27	7.51	9.75
	Reading and writing	13.43	4.51	20.3	12.75
	Diploma	0.00	1.5	0.00	0.5

3.1.1. Herd size

The average herd size per household is presented in Table 2. The average herd size was composed of cattle (5.36), sheep (5.19), chicken (4.64) and goats (0.76). The results are higher than the result of Mekonnen (2007) 3.12, 0.09 and 0.06 were cattle, sheep and goat, respectively in Dale, Wonsho and Loka Abaya woredas of SNNPRS. This result is also higher than Selamawit (2015) as 4.34 cattle, 1.37 sheep, and 0.82 goats in Shashemene district and but lower than 9.45 cattle, 1.86 sheep, and 3.16 goats herd size in Arsi Negele district. These results are lower than Dereje *et al,* (2016) as 9.06 head of cattle, 5.29 head of sheep, 4.26 head of goats and 6.47 head of chicken per households in Selected Districts of Western Oromia.

Table 2 Average herd size in study areas

| Livestock species | Study districts | | | |
| | G/Jarso | Jida | H/Abote | Over all (%) |
	(Mean $\pm$ SD)	(Mean $\pm$ SD)	(Mean $\pm$ SD)	(Mean $\pm$ SD)
Cattle	5.19$\pm$2.038	5.61$\pm$3.588	5.28$\pm$2.466	5.36$\pm$2.768
Sheep	5.25$\pm$4.068	6.11$\pm$4.815	4.23$\pm$4.613	5.19$\pm$4.561
Goat	0.00$\pm$0.00	0.83$\pm$2.00	1.44$\pm$1.944	0.76$\pm$1.712
Chicken	4.53$\pm$3.779	4.07$\pm$4.066	5.31$\pm$3.285	4.64$\pm$3.746

SD= standard deviation;

3.1.2. Slaughtered animals per household

The number of animals slaughtered per household per year is presented in Table 3. The mean slaughtered animals/annually were 2.67, 0.78 and 0.76 for sheep, cattle and goat respectively in the study area. The current result was agreed with Alemnesh (2015) reported that the mean annual slaughtered animals at household's level ranged between two and three animals for all the three species (cattle, goat and sheep).

Table 3 Annual slaughtered animals per household in study areas

| Type of animal slaughter | | Study districts | | | |
		G/Jarso	Jida	H/Abote	Over all
Sheep	Mean $\pm$SD	3.04$\pm$0.827	2.50$\pm$1.027	2.42$\pm$1.121	2.67$\pm$1.026
Goat	Mean $\pm$SD	1.00$\pm$0.000	0.05$\pm$0.228	1.75$\pm$0.730	0.76$\pm$0.968
Cattle	Mean $\pm$SD	1.22$\pm$0.428	0.57$\pm$0.644	1.04$\pm$0.208	0.78$\pm$0.593

SD=standard deviation

3.2. Hide and Skin Injuring Frequency

The observed frequency of hide and skin damage on animal body is presented in Table 4. All respondents were mentioned that they observed starved hide and skin have a poor quality (damage). From those damages; losses of hair, whip Lash and yoke mark were 1st, 2nd and 3rd ranked respectively, observed on live animals by respondents in study areas. This result was disagree with the report of Abainesh (2014) who reported that the major damages frequently seen on animal by the traders were horn rake (51.4%), branding scars (37%) and wound (28.6%) in Digalu/Tiyo districts of East Arsi Zone.

As farmers rise on focal group discussion, hide and skin of the animal can be affected by different factors like (disease, external parasite, horn of animal and etc.) before the animal is slaughtered. According to the respondents, oxen and bull were used for drought power like ploughing. At this time, most farmers beat oxen on

their shoulder and cause rope marks or whip lash which ultimately changes to permanent wound gradually. Dehorning was not practice in the study areas.

Table 4 Observed frequency of hide and skin damage on live animal body in study areas

No	Observed defects	1st	2nd	3rd	4th	5th	6th	F-Sum	PI	Rank
1	Loss of Hair	168	0	10	2	0	2	1056	0.344	1
2	Whip Lash	58	38	15	8	0	0	622	0.203	2
3	Yoke Mark	7	16	51	25	4	9	418	0.136	3
4	Horn Rake	19	33	19	8	9	0	397	0.129	4
5	Branding Scars	14	33	21	9	0	0	360	0.117	5
6	Hardening and Scalding	23	11	2	4	2	0	217	0.071	6
	Total							**3070**	**1.000**	

PI = Priority Index

3.3. Time and Place of Slaughtering

Majority (95%) of producers in the study areas revealed that they slaughter at least one animal (sheep, goat or cattle) were few (5%) of them are didn't slaughter any animal last year in their home table 5. Respondents are slaughter sheep, cattle and goats during religious holiday (96.05%) and social ceremonies (3.94%). Cattle are mostly slaughtered by forming groups among household neighbors at rural slaughter slabs. This is in line with the report of Hadush *et al*, (2013) who revealed that sheep and goats were slaughtered at their home while other large animals, cattle, are slaughtered outside their home. Wayua and Kagunyu (2008) and Selamawit (2015) also reported that most of the hides and skins are sourced from rural slaughter slabs and homestead slaughters. Respondents in the study areas was mention that majority of them are slaughters animal on clear area, on earth floor and on grass field place 46.31%, 37.10% and 11.57%, respectively. Majority (54.47%) of respondents are use straight sharp tip knife for both ripping and flaying which easily cause manmade defect on hides and skins. Due to uses of improper slaughtering place and equipment flay cut/hole (66.57%) and dirt (17.10%) is majorly observed on hide and skin in the study areas.

This result was in line with the report of Wayua and Kagunyu (2008) who reported that improper materials used for slaughtering causing manmade defects on skins and hides and thus poor prices. Cattle, sheep, and goats are mainly slaughtered in poorly equipped slaughtering places, where the infrastructure is sometimes on earth floor, a slab of concrete, on covered floor or under a tree, or using poles for hoisting carcasses (Selamawit, 2015). The rough slaughtering ground exposes the hide and skin to bruising and scratches, some of them use inappropriate knives for ripping and flaying altogether contributed to hides and skins damage and poor quality. This has been further reflected by the high prevalence of flay defects in both hides and skins (Behailu *et al*., 2017). The current result also supported by MoA and ILRI (2013) reported most animals in Ethiopia were slaughtered in facilities which do not have adequate infrastructure or the tools required to ensure production of good quality hides and skins. The challenges related to slaughtering facilities and practices include: Lack of adequate slaughter facilities in designated slaughter houses where the height of the abattoir may be a limitation; lack of hoists; proper flaying knives and hide pullers are not available in most cases.

Table 5 Time and place of slaughtering animals in the study areas

		Study districts			
		G/ Jarso	Jida	H/ Abote	Over all
Variables	Category	%	%	%	%
Do you slaughter animal last year	Yes	93.28	100	91.72	95
	No	6.71	0.00	8.27	5.00
At what time	Religious Holiday	100	93.98	94.26	96.05
	Social Ceremonies	0.00	6.01	5.73	3.94
Slaughtering places	On earth floor	58.4	36.09	16.39	37.10
	On grass field	11.2	3.75	20.49	11.57
	On rough surface	11.2	0.00	4.09	5.00
	On clear area	19.2	60.15	59.01	46.31
Knife used	Sharp tip	57.6	70.67	33.60	54.47
	Blunt tip	0.00	10.52	14.75	8.42
	Curved tip	17.60	12.78	33.60	21.05
	Sharp and blunt tip	8.80	0.00	18.03	8.68
	Sharp and curved tip	16.00	6.01	0.00	7.36
Observed defects during slaughtering	Flay cut/hole	56.8	84.21	57.37	66.57
	Dirt	17.6	13.53	20.49	17.10
	Flay cut and dirt	25.6	2.55	22.13	16.31

3.4. Training and Extension Services

Majority (73.81%) of the respondent didn't get any training while few numbers (26.18%) of them get training in slaughtering place during holydays how they can to reduce hide and skin defect cause during slaughtering (Table 6). Majority (68.75%) of the respondent contact the extension agent to get the services while few numbers (31.25%) of them didn't contact any extension agents. The extension services given in the study area were veterinary services (40.36%), animal product handling (38.18%) and animal husbandry managements (21.45%). Majority of respondents are contact extension agents when needed, as mention on focal group discussion majority of extension agents are on present in work place for long time per days. This result is different from Berhe (2009) revealed that only 45% of the sampled farmers received extension services regarding livestock husbandry and products management. In this regard, 6.2% of the respondents reported receiving veterinary service, and very little (3.1%) about hides and skins management. There is no extension agent worked on pre-slaughter hides and skins quality management in the study areas. Attention was not given for hides and skin quality improvement. So, farmers did not get enough advice about feeding, housing system and general management system rather than their own indigenous knowledge. This result agreed with Abaineshe (2014) and Behailu *et al*, (2017) who reported despite the presence of veterinary services, no extension agent working on pre-slaughter hides and skin quality management.

Table 6 Extension services delivery in the study areas

| | | Study districts | | | |
| | | G/ Jarso | Jida | H/ Abote | Over all |
Variables	Category	%	%	%	%
Extension services	Yes	38.80	69.17	98.49	68.75
	No	61.19	30.82	21.50	31.25
Services	Veterinary	30.76	17.39	60.30	40.36
	Animal husbandry	0.00	61.95	1.52	21.45
	Animal product handling	69.23	20.65	38.16	38.18
How often	Weekly	0.00	1.08	0.00	0.36
	Ones on two week	0.00	4.34	0.00	1.45
	Monthly	59.61	11.92	0.00	15.27
	Twice in year	0.00	4.34	0.00	1.45
	Ones in year	0.00	23.91	0.00	8.00
	When needed	40.38	54.34	100	73.45
Training given	Yes	51.92	44.56	3.05	26.18
	No	48.07	55.43	96.94	73.81

3.5. Marketing of Hide and Skins

Majority (88.75%) of respondents are take hide and skin to the market, while about 11.25% of respondents are didn't take hide and skins to market in last year (Table 7). About 87.32% of respondents are sold the fresh hide and skins were the others are sold sun dried (9.01%) and salted (3.66%) hide and skin in the study areas. This result was disagree with the finding of Hadush *et al*, (2013) in Tigray Region and Mesele *et al,* (2015) who reported that only 31% and 44.14%, of household respondents sold skin to formal market respectively. Almost all of the household producers in the study area sold hide and skin in fresh (unpreserved) state (Selamawit, 2015). Farmers sold mostly fresh hide and skins within (24, 12 and 48) hours after slaughtering 52.90%, 40.64% and 6.45%, respectively to legal traders. The current finding was supported by the report of Hadush *et al*, (2013) and Behailu (2015) raw hides and skins supplied from farmers are all in the fresh state and majority (42%) being sold in the first 24 hours post-slaughter. About 40.56% of respondents did not have market information before they take hide and skins to the market, while the rest 25.63% and 25.35% get market information through personal observation and friends/other producers, respectively. Buyers played the leading role in price determination during purchasing.

The current study was similar with the report of Wayua and Kagunyu, (2012) documented that the producers had limited information on market outlets of hides and skins. About 51.83% of respondents transported hide and skins on foot carried in plastic bags, 25.63% and 22.53% are transport on foot in open air and animal transport (cart), respectively. This result was similar with Selamawit (2015) the main transportation methods of hide and skin to market were animal transport, by cart, vehicle, on foot in open air and on foot carried in plastic bags. Farmers commonly carried hide and skins by their own to market place or warehouses by placing them in plastic bags (Demerech, 2014 and Behailu, 2015). A similar transportation condition was reported by Hadush *et al*, (2013) in Northern Tigray. The most common transportation systems for the raw hides and skins by the farmers is through sacks, carrying by them through sticks and carrying by their hand for their raw hides and skin. From this it is clear that the fresh raw materials could be exposed to dirt and putrefaction due

to inappropriate handling especially in plastic bags for long hours which favors bacterial growth. The average prices of hide, sheep and goats skins in the study area were 61.35, 28.38 and 13.39 Birr, respectively which was very cheap (not enough) due to this reason, majority of farmers are didn't give critical attention to hide and skin during slaughtering.

Table 7 Hide and skin marketing in the study areas

| | | Study districts | | | |
| | | G/ Jarso | Jida | H/ Abote | Over all |
Variables	Category	%	%	%	%
Do you sell HS Last year	Yes	80.59	98.49	87.21	88.75
	No	19.40	1.50	12.78	11.25
Type of HS sold	Fresh	100	93.87	68.10	87.32
	Sun dry	0.00	1.52	25.86	9.01
	Salted	0.00	4.58	6.03	3.66
Selling time	Within 12 hours	47.22	26.01	54.43	40.64
	Within 24 hours	52.77	57.72	45.56	52.90
	Within 48 hours	0.00	16.26	0.00	6.45
Transporting systems	Animal transport	12.96	28.24	25	22.53
	On foot in open air	20.37	13.74	43.96	25.63
	On foot in plastic bag	66.66	58.01	31.03	51.83
Market information	No information	37.96	62.59	18.10	40.56
	Broker (middleman)	0.00	1.52	0.00	0.56
	HS Traders	18.51	6.10	0.00	7.88
	Personal observation	28.70	16.03	33.62	25.63
	Friends/other producer	14.81	13.74	48.27	25.35
Prices of HS		Min	Max	Average	
	Sheep skin	15	40	28.38	
	Goat skin	10	20	13.39	
	Hide	25	100	61.35	

HS= Hide and Skin

3.6. Constraints and Opportunity of Hide and Skin Production and Marketing
3.6.1. Constraints hide and skin production

The main constraints adversely affecting the production of hides and skins as reported by the interviewed households were lack of improper use of preservation, lack of awareness, livestock disease and parasite, lack of training and veterinary services, lack of slaughtering facility and branding and injury with their decreasing index values of 0.194, 0.188, 0.178, 0.174, 0.146 and 0.120, respectively (Table 8). The result was consistent with the report of Ahmed (2000) and Feleke and Amistu (2016), who reported that the main constraints in the production and marketing of hides and skins included the 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. The result also supported by the report of Jubar *et al*, (2002) and Behailu (2015), poor animal husbandry (inadequate and poor quality feeds, inadequate parasite and disease management) and inappropriate slaughtering, flaying, collection and initial processing methods used were the main problems that affect hide and skin quality. The production and marketing was constrained by a number of problems. Livestock diseases and parasites as well as lack of veterinary services were indicated as the major hindrances to quality of hides and skins (Berhe, 2009; and Demerech, 2014).

Table 8 Constraints of hide and shin production in the study areas

Constraints	1st	2nd	3rd	4th	5th	6th	F-Sum	PI	Rank
Lack of improper use of preservation	53	96	96	119	20	13	1592	0.194	1
Lack of awareness	67	79	133	26	56	28	1547	0.188	2
Livestock Disease and parasite	112	39	22	117	53	54	1466	0.178	3
Lack of training and veterinary service	90	70	61	59	28	63	1430	0.174	4
Lack of slaughtering facility	43	53	53	30	169	32	1195	0.146	5
Branding and injury	35	63	35	46	43	84	973	0.120	6
Total							**8,203**	**1.000**	

PI = Priority Index

3.6.2. Constraints of hide and skin marketing

The main constraints adversely affecting the marketing of hides and skins as reported by the interviewed

households were low price offer, lack of competitive market, fluctuating price and lack of access to the market (information and distance) with their decreasing index values of 0,281, 0.263, 0.241 and 0.215, respectively (Table 9).

Table 9 Constraints of hide and skin marketing in North Shewa Zone, Oromia

Constraints	1st	2nd	3rd	4th	F-Sum	PI	Rank
Low price offer	191	48	63	57	1091	0,281	1
Lack of competitive market	89	86	186	35	1023	0.263	2
Fluctuating price	35	197	69	65	934	0.241	3
Lack of access to the market (information and distance)	85	69	52	184	835	0.215	4
Total					**3,883**	**1.000**	

PI = Priority Index

3.6.3. Opportunity of hide and skin production

The main Opportunity of hide and skin production was ranked as reported by the interviewed households were livestock population, good habit of meat consumption and extension service with their decreasing index values of 0.435, 0.368 and 0.197, respectively (Table 10).

Table 10 Opportunities of hide and skin production in the study areas

Opportunities	1st	2nd	3rd	F-Sum	PI	Rank
Livestock population	230	134	18	976	0.435	1
Good habit of meat consumption	142	148	104	826	0.368	2
Extension service	26	100	164	442	0.197	3
Total				**2,244**	**1.000**	

PI = Priority Index

3.6.4. Opportunity of hide and skin marketing

The main Opportunity of hide and skin marketing was ranked as reported by the interviewed households were market access, better infrastructure and high price offer with their decreasing index values of 0.426, 0.320 and 0.253, respectively (Table 11).

Table 11 Opportunities of hide and skin marketing in the study areas

Opportunities	1st	2nd	3rd	F-Sum	PI	Rank
Market access	169	133	22	795	0.426	1
Better infrastructure	73	127	120	593	0.320	2
High price offer	87	58	94	471	0.253	3
Total				**1,859**	**1.000**	

PI = Priority Index

4. CONCLUSION AND RECOMMENDATIONS

The present study was conducted to assess challenges and opportunities of hide and skin production, quality and marketing in North Shewa Zone, Oromia. Three districts (Girar Jarso, Jida and Hidabu Abote) were purposively selected based on livestock population and accessibility to transportation. The primary data were collected from producers, key informants through interview, field observation and focus group discussion. The result of this study revealed that the mean slaughtered animals per household were 2.67, 0.78 and 0.76 for sheep, cattle and goat, respectively. Majority of live animals hide and skin have a poor quality (damage), from those damages; losses of hair, whip Lash and yoke mark were 1st, 2nd and 3rd ranked respectively which is cause due to improper managements. While defects caused during slaughtering mentioned were flay-cut/hole (66.57%) and dirt (manure and blood) (17.10%). This damage was caused by careless/lack of awareness and use of improper knife for ripping and flaying. Majority (87.32%) of respondents are sold the fresh hide and skins were the others are sold sun dried (9.01%) and salted (3.66%) hide and skin to the market due to low demands of preserved hide and skin in market.

The constraints of hides and skins production was ranked, lack of improper use of preservation was the first rank, lack of awareness was the second rank and livestock disease and parasite was the third ranks of constrains in the North Shewa zone. The constraints of hides and skins marketing was ranked, low price offer was the first rank, lack of competitive market was the second rank and fluctuating price was the third ranks of constrains in the North Shewa zone. It is not realistic to expect animal hides or skins to be perfect and defects are almost always present to some extent. Such defects cause depreciation in the value of the hides and skins and the consequence is that farmers, traders and the tanning industry suffer considerable financial losses.

Therefore from this study, the following recommendations should be undertaken to improve hide and skin quality in the study area:

➢ Extensive training and extension service will be given on live animal management, such as feeding and housing to avoid pre slaughtering defects.

➢ The storage room/warehouse of the hide and skin shall be constructed according to the standard set by Ministry of Agriculture (MoA) and should be supervised regularly by the responsible experts assigned in the districts.
➢ Additionally grading of raw hide and skins should be practiced and the price must be fixed based on its grade.
➢ Awareness creation programs on peri and post slaughtering defects through extension service is very crucial to improve the quality of hide and skin for maximizing income.

5. ACKNOWLEDGEMENTS

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