Evaluation of the current status of Hides and Skins Value Chain in Tanzania Leather Sector

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Executive Summary

Hides and skins value chain involves several processes ranging from animal husbandry to the export and trading of leather and leather products. Each process has a key player, and there are service providers and enablers to make the processes in the value chain run smoothly. Being among the countries with the largest livestock population in Africa, Tanzania's leather sector has immense potential to contribute to the national economic growth. The prospect has not yet been tapped due to several constraints hindering the sector growth; hence, a need to evaluate the current status of the hides and skins value chain for proposing interventions for change.

An evaluation of the current status of hides and skins value chain in the Tanzania leather sector and its growth potentials was carried out. The study involved a brief evaluation of the existing leather processing and leather products-making industries' current status. The work was divided into four phases: desk review to relevant literature; fieldwork in seven (7) regions of Tanzania, which took place from 27th October to 9th November 2020; focus group discussion, held on 17th November 2020; and lastly, report writing. Questionnaires were used to collect data from leather processors (tanneries) and leather products manufacturers. Service providers' opinions were obtained through focus group discussion (the discussion was guided by a pre-prepared checklist) as their role in the hides and skins value chain should never be underestimated.

The collected data and desk reviews enabled the evaluation of Tanzania's leather sector and the reasons for its underperformance. The identified constraints that hinder the sector's performance were used to recommend the solutions toward Tanzania's leather sector's desired status.

The findings revealed that both leather processing and leather products making industries are dominated by SMEs (6 and 159, respectively) over large scale firms (4 and 5, respectively). Most of them are privately owned by Tanzanians (80% and 94%) following the Government's effort to transform the industrial sector. The findings further revealed that about 50% of the workers in the leather sector of Tanzania are unskilled, whereas 50% of the skilled workers received informal training offered in the factories. Gender wise, only 36% of the workers are female compared to 64% of males, and majority of women belong to unskilled workers.

The survey involved evaluating the supply of raw materials (hides and skins) to the leather processors (tanneries) and finished leather to leather goods manufacturers. The

evaluation shows that tanneries get hides and skins entirely from local suppliers; hence, no importation of raw hides and skins. About 60% of high-quality hides and skins are supplied from Central and Lake zone because most herdsmen practice zero grazing animal husbandry that ensures good quality. But generally, the hides and skins produced in Tanzania are of inferior quality, affected by defects mainly brandmarks (80%) and flay cuts (60%). As a result, 90% of leather processors are unsatisfied with the quality of hides and skins available in Tanzania.

On the other hand, the survey revealed 91% supply of the finished leather are from local suppliers mainly WOP (48.6%), Himo Tanneries and Planters Ltd (42.5%) and Moshi Leather Industries (40.0%). However, about 91.5% of leather products manufacturers are unsatisfied with the quality of finished leather produced in Tanzania due to prevalence of brandmark (50%), spots due to scars and skin diseases (50%) and holes due to fly cuts (40%). As such, few manufacturers prefer to get finished leather from Kenya. The study noted the importation of other accessories for making leather products except for the soles.

To improve the quality of hides and skins, respondents proposed the following: education to the hides and skins flayers (70%), education to the pastoralists (50%) and stakeholders (20%), timely preservation of hides and skins (20%) and provision of livestock extension services (10%), employing hides and skins officers (10%), increasing the hides and skins' market price (10%) and installing hides and skins pulling machines in the abattoirs (10%). Moreover, during the focus group discussion, stakeholders suggested permanent employment of well-trained flayers in abattoirs.

Technology-wise, the study revealed no tannery employing modern technologies nor has plan to use them soon due to the high investment cost required to acquire modern machines for leather processing. On the other hand, 11% of leather products manufacturers use modern technologies (automated machines), while 40% are planning to do so in future. Majority of tanneries operated below their installed capacities with an average production capacity utilization of between 21–40% for large establishments and 41-60% for SMEs. Underutilization of existing Capacity is due to unfair competition with imported synthetic leather, shortage of raw materials and unreliable power supply.

Concerning the market for leather and leather products, 60% of surveyed tanneries and 95% of leather products manufacturers prefer local market than the export market, and 10% operate in both markets. Tanneries export semi-finished leather while selling all finished leather to local leather products manufacturers. The primary market for semi-finished leather are China (30%) and Kenya (20%). Low distribution capacity

(69%), failure to meet international standards (35), less ability to grab opportunities in the international markets (34%), global leather trade crisis (33%) and low motivation (20%) cause inability to access the export markets. On the other hand, finished leather and leather products compete unfairly with imported synthetic leather, second hand, and plastic shoes in the local market. Moreover, customers are hardly satisfied with the locally produced products due to poor quality (100%), low production capacity (100%), delivery delays (100%) and high price (70%).

Regarding waste management, tanneries generate effluents and trimmings, whereas leather products factories generate glue gallons in large quantities. It was hard to quantify the wastes generated because there were no records of wastes. Approximately 50% of tanneries treat the effluent before discharging to the rivers, while the most familiar method of handling solid wastes (60% responses) is landfilling. On the other hand, leather products manufacturers manage solid wastes by damping to the designed municipal damp sites (80%), where they incur disposal fees. Respondents recommend the provision of education on waste management.

Knowledge about restricted substances and their impact on market acceptability of the product, environment, health of consumers is relatively low, especially to the leather products manufacturers. About 80% of leather processors and 8.6% of leather products manufacturers responded to know something about toxic ingredients/ restricted chemicals. But among chemicals they mentioned as restricted/toxic substances, only Chrome (VI) qualify. This situation indicates that leather processors and leather products manufacturers are not aware of restricted substances.

Awareness about Acts, laws and regulations governing the leather sector is significantly low, and the situation is worse for leather goods manufacturers. About 60% of leather processors are aware, while only 14% of leather goods makers know something about the acts, laws, and regulations. Even those few who are knowledgeable, their awareness is limited on Hides, Skins and Leather Trade Act No. 18 of 2008 (80%), Animal Health Act No. 10 of 2006 (60%) and Livestock Identification, Registration and Traceability Act No.12 of 2010 (20%). The majority (70%) recommended the amendment of the acts, laws, and regulations, particularly on export laws (50%), restriction on the use of exotic leather (20%), tax reduction (25%), easing acquisition of permits and licenses (18%) and establishment of the leather board (18%).

Stakeholders acknowledged that the Tanzanian leather sector's stagnation is due to both government and key actors' irresponsibility to create an attractive environment for improvement. Thus, they suggested permanent employment of flayers rather than training unemployed ones as it hasn't bear fruitful results. They further advised hiring

hides and skins supervisors in the abattoirs and rewarding the best performance. Or else, slaughterhouses have to be installed with modern pulling machines.

Meanwhile, Stakeholders acknowledged the existing unfair competition with imported plastic and mitumba. These alternative products are everywhere in Tanzania because local industries cannot meet the market demand due to low tech and other constraints. Awareness about the durability of leather good against plastic is low among Tanzanians, and most of the purchasing power Tanzanians is too low to afford leather products.

Furthermore, stakeholders pinpointed the need for reviewing the standards for environmental management and quality control available at NEMC and TBS, respectively. These standards are too stringent to comply as compared to other countries. They also emphasized the need to have a national laboratory for leather and leather products, well equipped to test physical and chemical parameters.

The following are the constraints to leather sector growth identified in this study: Poor quality raw hides and skins; Poor livestock husbandry practices; Unfair competition; Limited awareness about laws, policies and regulations governing the leather sector; Technology obsolete; Limited access to processing inputs and accessories; Waste management challenges and limited awareness about restricted chemicals; Weak institutional arrangement; Lack of skilled personnel; Gender imbalance in Technical and Managerial positions; and Limited access to finance etc.

Despite existing constraints, the study identified many opportunities that if given special attention, they will be a sure way to revitalize Tanzania's leather sector. These opportunities include a high population of livestock base and large pastoral areas; the Ready market; Local processing and value addition in community-based tanneries; Government commitment to support the development of the leather sector; and readily available workforce.

The following are the recommendations for possible consideration: improve the quality of hides and skins; develop and implement a sustainable plan to address sectors constraints; control the importation of second hand and plastic products; create awareness about acts, laws and regulations governing the leather sector; the management of leather sector should be institutionalized by facilitating LAT to become fully operational; carry out feasibility studies for a possible establishment of chemicals and accessories industries in the country; ensure availability of leather experts, while considering gender gap among skilled workforce; modernize technologies to reflect those in the market.

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REPOA extends its gratitude and thanks to the Tanzania Bureau of Standards (TBS), National Environmental Management Council (NEMC), Tanzania Revenue Authority (TRA), Tanzania Trade Development Authority (TanTrade), Government Chemist Laboratory Authority (GCLA) and the Leather Association of Tanzania (LAT) for their time and readiness to give relevant information whenever it needed them. We are also grateful to the many tannery and leather goods industry owners for their participation in the study. Their willingness to share their views and real-life experiences about the leather sector of Tanzania is appreciated.

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1. Introduction

1.1 Background of the Project

The Leather Sector presents many opportunities to the Tanzanian Economy ranging from employment generation, export earnings, contribution to Government revenue and other multiplier contributions to the rest of the economy. Tanzania has the second-largest herd of livestock, after Ethiopia. It has 33.4 million cattle, 21.3 million goats and 5.7 million sheep that produce 4.03 million hides 5.6 million goatskins 1.6 million sheepskins annually (Ministry of Livestock and Fisheries, 2020). Favourable climatic conditions for rearing livestock contribute to such enormous wealth (Ministry of Finance and planning, 2018). Owing to several constraints that have been hunting the sector, the Tanzania leather sector remains weak, and most of the exports are in the form of traditional products including raw and wet-blue hides and skins (Daily News Reporter, 2020).

The value chain of hides and skins starts with cattle husbandry and ends with leather and leather products (Figure 1). The first key actors in the hides and skins value chain are the pastoralists, agro-pastoralists, ranchers, and feedlot operators that rear animals. Other actors are slaughter slab owners, abattoir owners and collectors, responsible for slaughtering and collecting hides and skins. Wholesale traders/exporters collect and sell unprocessed hides and skins to tanners/exporters. In contrast, tanners/exporters sell either semi-finished or finished leather products to wholesale traders/exporters or directly to consumers. Industries and factories for leather and leather products, e.g., shoes, bags, clothes, etc., comprise a significant portion in the leather value chain.

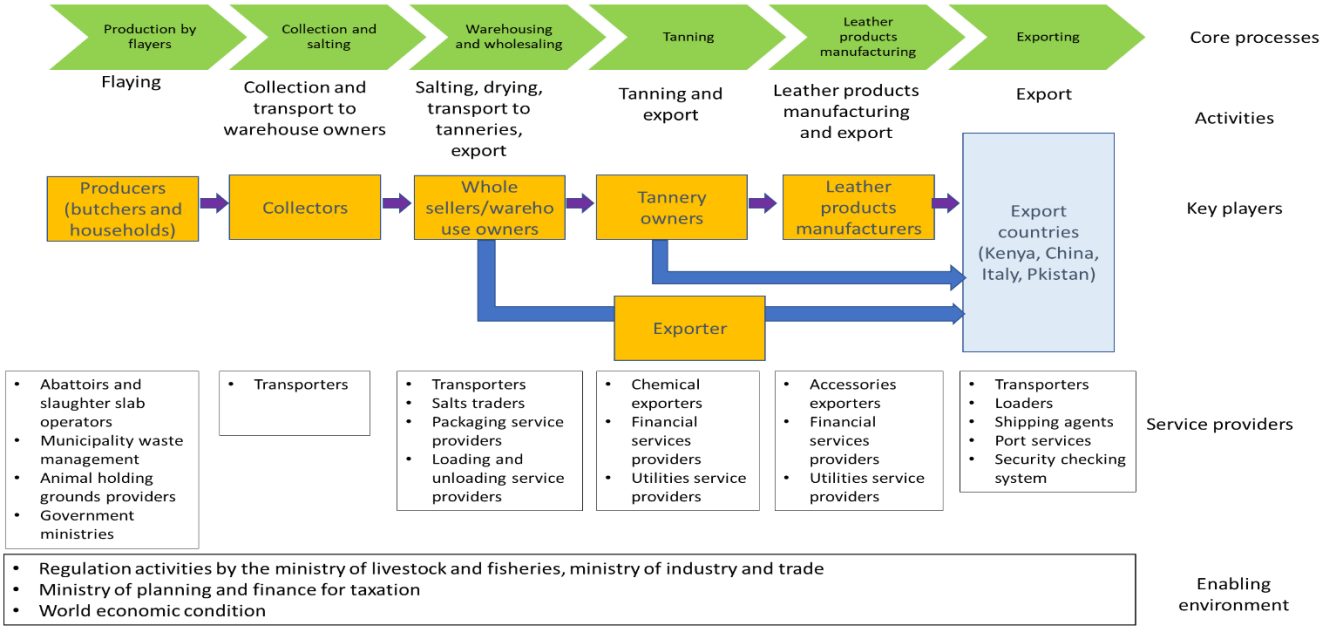

Figure 1.1: Hides and skins value chain

There are nine registered tanning industries in Tanzania of which only five (5) are operating. However, many informal small tanneries are in the villages, which produce finished leather mainly by vegetable tanning method (China et al. 2020a). The Tanzanian tanning industry is dominated primarily by wet-blue leather production, while crust and finished leather account for a smaller production share (Mirondo, 2020; China and Ndaro,2016; Mwangosi, 2014). Among the five tanneries, there is no tannery producing high-fashion finished leather. The entire country's installed Capacity is equivalent to 104 million square feet per year, with actual capacity utilization at around 86% and 61% for hides and skins total annual processing capacity, respectively (Ministry of Livestock and Fisheries, 2017). The Ministry of Livestock and Fisheries (2017) informed presence of about 40 micro, small and medium-sized enterprises, and two large leather products manufacturing enterprises in Tanzania. Together, these firms have the production capacity of 1.2 million footwear pairs per year, while the domestic market demand is at least 50 million pairs annually (Huaxia, 2020).

The production below Capacity in the tanning industries is associated with unproductive investments, where investments are made in equipment without an increased production level due to the inadequate quantity and quality of raw hides and skins (H&S), lack of experts (Mirondo, 2020). Low investment in value addition in the leather industry has undermined production, with thousands of tons of hides and skins going to waste due to poor handling and low quality (Chasama et al., 2017; Tairo, 2020). Other challenges include growing requirements regarding environmental compliance and standards, chemical controls (including the Registration, Evaluation, Authorization and Restriction of Chemicals Regulation) and weak customer service when dealing with buyers' delivery requirements, e.g., grades, timing, etc.

Leather goods manufacturers export few leather products, as evidenced in the world footwear exporter's list (FAO, 2013). They also do not meet the domestic market's demand, leading to mass importation of second hand and substitutes such as plastic shoes, bags, belts etc. that bring unfair competition with locally produced leather products (Gronkvist, 2014; China et al., 2016).

Several efforts have been put in place so far to solve the sector's challenges. Ministry of Livestock and fisheries have addressed the inadequate quantity and quality of hides and skins by distributing 31 flaying knives to the licensed flyers in the Eastern, Northern Regions. The ministry also implemented the capacity building program to 133 hides and skin graders and 735 flayers on the best practices. The imposition of 80% export levy for hides and skins and 10% for wet blue to encourage local processing is another Government' effort (Ministry of livestock and Fisheries, 2020; Mirondo, 2020). Another remarkable intervention by the Government is establishing the state-of-the-art Kilimanjaro International Leather Industry that cost about 59 million USD, expecting to end the importation of leather goods in the next two years (Huaxia, 2020).

However, while the Government is looking to control the imports of substitute products and second-hand merchandise, how local manufacturers will fill the gap of around 50 million pairs of footwear that the nation demands yearly is to be addressed. The current situation calls upon immediate and impact-based interventions to rescue the leather sector of Tanzania. The present report presents Tanzania's hides and skin value chain evaluation to identify constraints, opportunities, and recommendations for the best interventions to bring positive change.

Objectives

The overall objective of this study was to analyze the hides and skins value chain in Tanzania, and specifically aims to:

i. To assess the current status of hides and skins value chain in tanneries, including significant constraints.

ii. To assess the current status of hides and skins value chain in leather products manufacturing industries, including major constraints.

iii. To identify the gaps and opportunities available for the hides and skins value chain development.

iv. To make relevant recommendations necessary to improve the performance of leather value chain processes.

Scope of the work

The scope of the work covered a total of thirty (30) manufacturers of leather products and ten (10) tanneries, which include four (4) big tanneries and six (6) small (SMEs) for quantitative data collection from Dar es Salaam, Pwani, Morogoro, Dodoma, Mwanza, Arusha and Kilimanjaro (Table 1.1). Pre-testing of the questionnaires involved three (3) tanneries and two (2) leather products manufacturers. A total of nine (9) leather sector stakeholders from public institutions, including ministries, regulatory authorities, and private sectors, participated in the focus group discussion.

Table 1.1 Number of tanneries and leather products firms covered in each region.

Region	**No. of leather products manufacturers**	**No. of leather tanneries**	**Total**
Dar es salaam	8	0	8
Pwani	2	1	3

Morogoro	3	2	5
Dodoma	2	1	3
Mwanza	4	1	5
Kilimanjaro	9	3	11
Testing	3	2	5
Total	**30**	**10**	**40**

Limitation of the study

The study bases its findings mainly on secondary data and primary data collected in the field for tanneries and manufacturers of leather products and focus group discussion with key stakeholders. However, the study did not assess farmers, butcher man and hides and skins collectors due to time constraints and budget. But most of their challenges were reflected and captured from the responses given by tanners and leather products manufacturers.

The relevance of the Study

This study contributed to the development of the leather sector in Tanzania as one of the main sectors to impact the national industrialization agenda. Various initiatives are already underway in Tanzania. However, many challenges still face the leather sector, especially the quality of hides and skins and processed leather. Despite the Government and other stakeholders' commitment and concern for the sector, it is anticipated that some intervention measures are still needed to make sure that the sector is highly benefiting the country sometimes. On these bases, this study compiles useful information and recommendations of the hides and skins value chain from leather processors and leather products makers that could be useful for improving the sector.

Methodology

The study employed a research methodological approach to collect both primary and secondary data. For primary data collection, the employed methods were quantitative and qualitative once. A quantitative approach deployed the use of questionnaires administered to the owners of leather industries, and a discussion with leather industry stakeholders applied a qualitative approach through focus group discussion. Secondary data collection involved collecting data of the total list of factories and SMEs in the leather sector from trusted literature and the list of chemicals used in the leather sector from relevant Tanzania institutions.

In general, the methodological approach covered six stages as described below:

i. Sample design and Sample size

The survey sample coverage encompassed regions with most leather industries to ensure accurate representation. The sample was selected by bias method (purposive sampling) based on the number, level and type of leather industries in that region. Subsequently, the stakeholders for focus group discussion were selected based on their strong influence on the leather sector.

ii. Design of survey tools

The questionnaire's design and focus group discussion's checklist questions' format aimed at meeting the client's objectives stipulated in Terms of References (ToRs).

The questionnaires covered information on the following:

i. Location of the establishments
ii. Ownership of the establishments
iii. Level of skills of the staffs in leather industries
iv. Year of the establishment of the industries
v. Raw material availability and quality
vi. Availability and usage of chemicals
vii. Technology and Production
viii. Market
ix. Acts, laws, regulations, and Policies in the leather sector
x. Health and Environmental management in the leather sector

The focus group discussion checklist also covered a wide range of questions that explore quality management practice in the whole value chain in the leather sector.

iii. Pre-Testing of questionnaires

Pre-testing questionnaires intended to test the questions' flow and clarity, estimate the interviewing time, manpower requirements, etc. Thus, the pre-testing objectives were to check the questions' consistency, data collection techniques, and time used to finish the interview and logistic issues.

iv. Data Collection

Data collection commenced on 27th October 2020 up to 9th November 2020 through face-to-face interviews using Questionnaire named A and B attached as appendix 1

and 2; stakeholders' discussion using focus group discussion questions/checklist on 17th November 2020 attached as appendix 3.

v. Data analysis

Data gathered from the survey were analyzed by the Statistical Package for Social Sciences (SPSS) and excel programme. The views and opinions of interviews and focus group discussions were analyzed as presented in the findings and discussion section.

2. Findings and Discussion

2.1 Characteristics of Tanneries and Manufacturers of Leather Products in Tanzania

2.1.1 Type and number of Tanneries and Leather Products Industries in Tanzania

According to the SME policy of 2002, Industrial establishments can be divided into Large, Medium, Small and Micro Enterprises with characteristics shown in Table 2.1 below.

Table 2.1 Category of Industrial enterprises in Tanzania

Category	Subcategory	Employees	Capital Investment in machinery (Tshs.)
SME / MSME	Micro Enterprises	1-4	Up to 5Mil.
	Small Enterprises	5-49	Above 5 Mil. to 200Mil.
	Medium Enterprises	50-99	Above 200Mil. to 800Mil.
Large enterprises	Large Enterprises	100+	Above 800Mil.

Source: Ministry of Industry and Trade, 2002.

Tanneries and leather products industries of Tanzania can be categorized, as shown in Table 2.2. This categorization was based on SMEs policy, primary data collected from the visited establishments during fieldwork, secondary information collected from Ministry of Livestock and fisheries, Ministry of Industry and Trade and Tanzania Leather Product Producers Association (TALEPPA).

Table 2.2: Category and Type of leather industries in Tanzania

Category	**Leather Tanneries**	**Manufacturer of Leather products**
Large	4	5
SMEs	6	159

2.1.2 Establishment of Tanneries and Leather Products Industries

In the period between independence (1961) and 1990, a small number of leather industries were established compared to the period between 1990 and 2000s, whereby the largest number of establishments was in the period between 2000 and 2004. This was the period when the Government started to implement privatization of public-owned firms.

Despite the fifth Government's effort and attempts to make Tanzania a semi-industrialized economy country, few large tanneries and leather products industries started to operate from 2015. A high number of leather products manufacturers began to work from 2009 are small manufacturers of leather products.

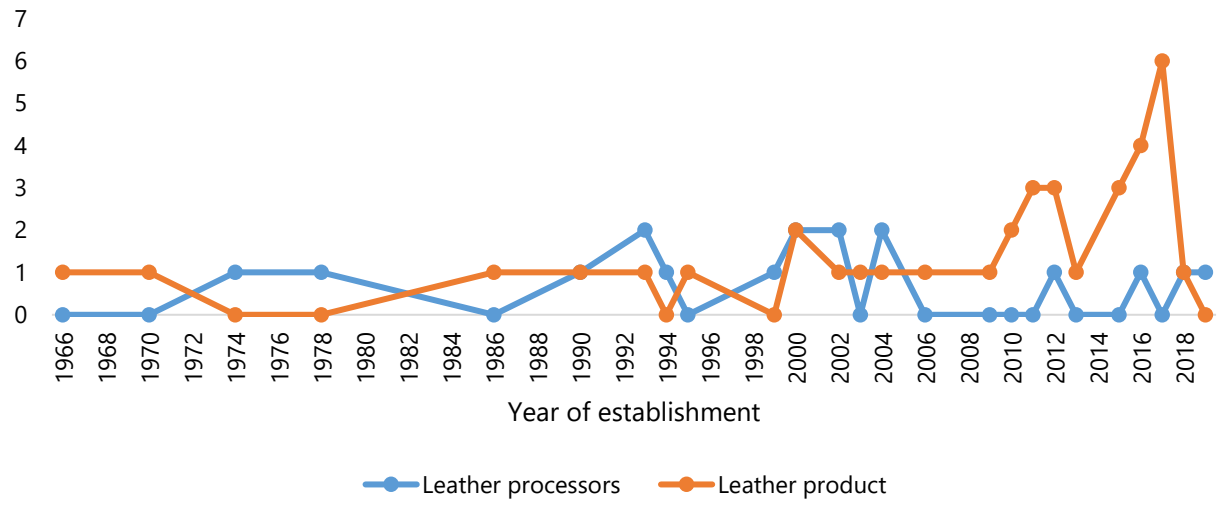

Figure 2.1 Year the establishments in Leather sector start to operate.

2.1.3 Ownership

Forms of Ownership on leather industries can be classified into two groups: Ownership by origin and Ownership by the public, private, or joint sectors. Ownership by origin is determined by the owners' origin if they are nationals, foreigners, or jointly owned company. Figure 2.2 summarizes Ownership by origin for the surveyed leather processors and manufacturers of leather products, whether they are nationals, foreigners, or jointly owned establishments.

The results show that nationals owned 80% of the tanneries, while foreigners owned 10%, and 10% were jointly owned. They also indicate that nationals owned 94% of leather products production units, and only 6% were jointly owned. This kind of ownership status resulted from the Government effort to transform the economy into a semi-industrialized one through different government mechanisms to develop small enterprises. Contrary, few small-scale tanneries are there due to inadequate skills and technology for processing hides and skins and limited access to processing inputs (most of the equipment and chemicals for tanning are imported).

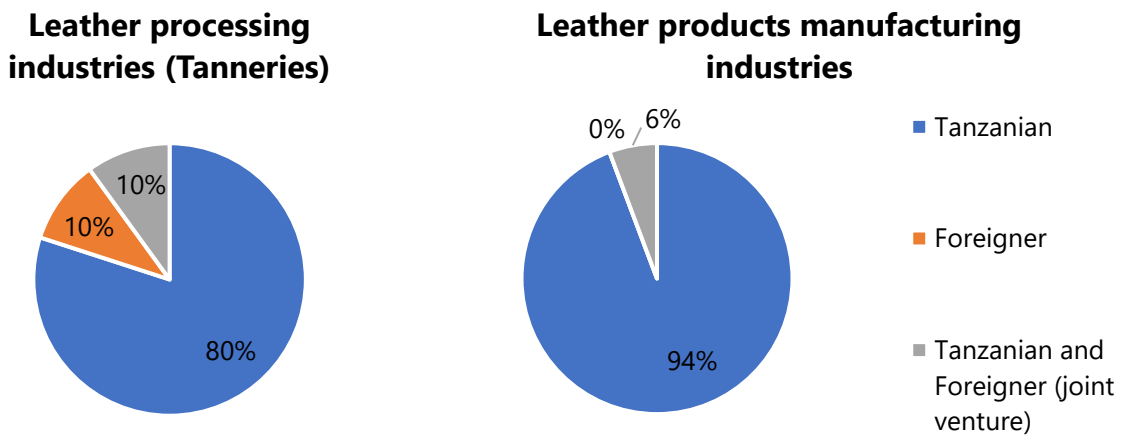

Figure 2.2: Ownership by Origin for Tanneries and Manufacturers of Leather products

Another form of Ownership, the classification is based on whether the establishment is owned/controlled by public authority, private or both public and private entities. Figure 2.3 provides a detailed classification of Ownership.

It shows that the majority of the surveyed leather processing industries were privately owned firms. Percentagewise, private Ownership is 80%, and public Ownership is by 10%, while 10% had mixed Ownership. Furthermore, the results show that 94% of the leather products firms had private Ownership, 3% had public Ownership, and only 3% had mixed Ownership.

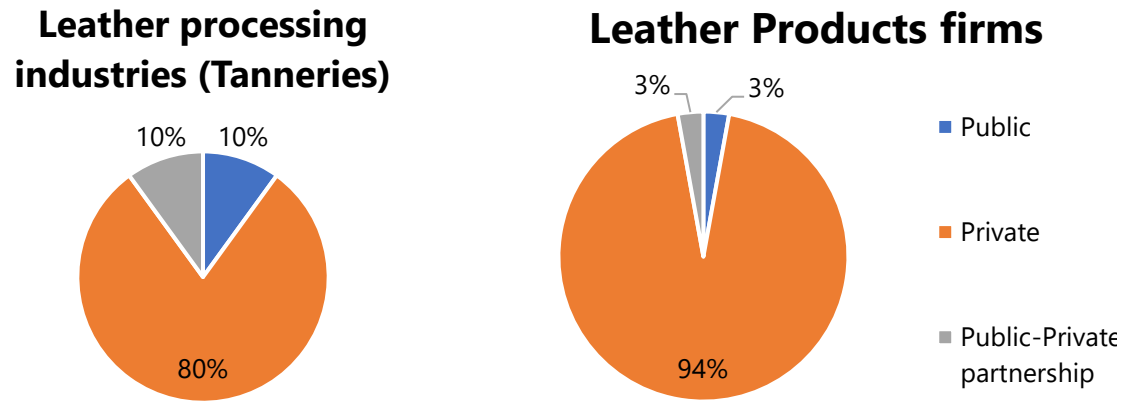

Figure 2.3: Percentage of Leather industries by the form of Ownership

2.1.4 Employment, training and level of skills

The survey of the tanneries and leather products industries provided information on employees' categories, different skills level, and gender in the leather sector. The composition of the workforce in the leather sector in terms of skills level and employment categories shows that employees with no skills manage more than 50% of establishments. Also, more than 70% of the employees that occupy technical role

are unskilled (Figure 2.4). Lack of professionals and inadequate training centres to train technicians and operator required in the sector are the causes of the prevailing situation (Chasama, et al. 2017; China and Ndaro 2015; Lwesya 2018; Mbassa, et al. 2014).

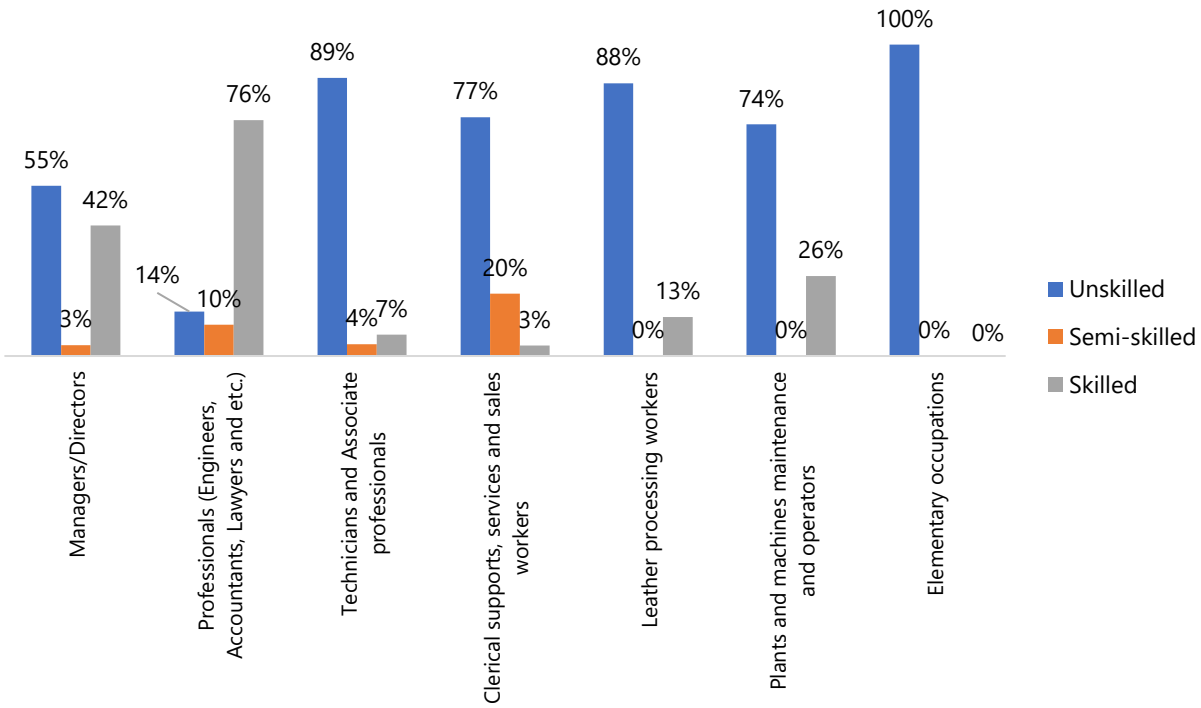

Figure 2.4: Level of skills by employment category in Manufacturer of Leather products

Moreover, more than 50% of the trained workers receive informal training at the factory (

Table 2.3).

Table 2.3: Type of training offered to employees

Type of training	Frequency	Percentage
Formal training offered locally	9	16%
Formal training offered abroad	17	31%
Informal training provided in the factory	29	53%

Regarding gender, there is a higher percentage of the male workers (64%) than female workers (36%) in tanneries and leather products industries. By considering the employment category, analysis shows that very few female workers are in managerial level in both tanneries and leather products industries. This category is dominated by male workers and depicts that women are not highly involved in managing and running of businesses in the leather sector, especially in tanneries (Figure 2.5). There is also a significant gap in a technical position; few females occupy technical roles compared to other positions such as clerical supports, sales, provision of services, and elementary occupation where there is a gender balance. Figure 2.5 and Figure 2.6 illustrates the composition of gender and employment category in tanneries and leather products industries.

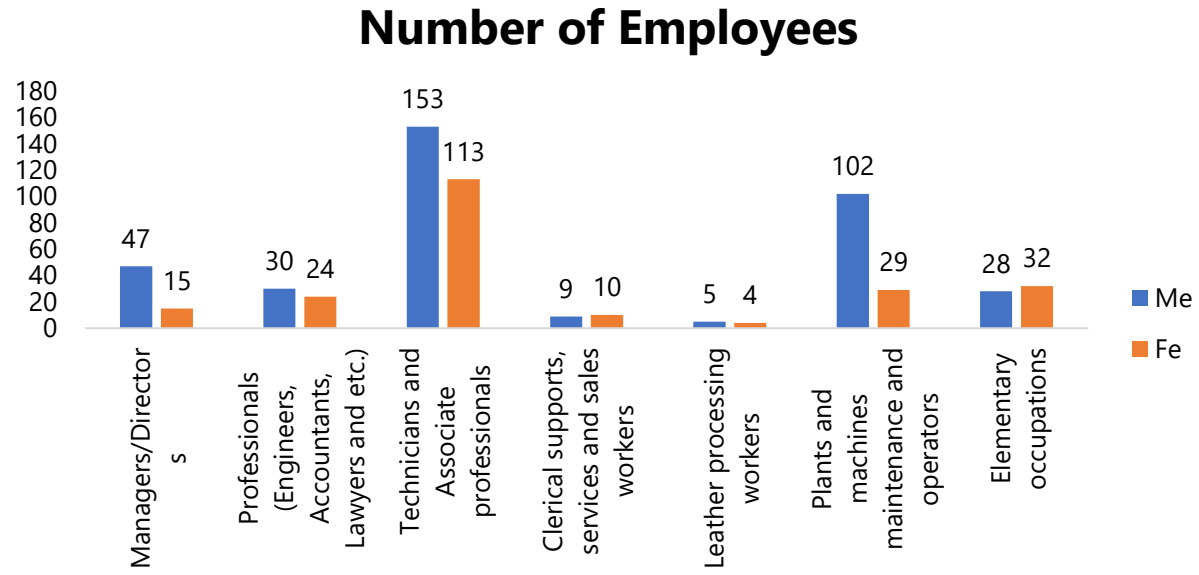

Figure 2.5: Employment category and gender in the leather products industries

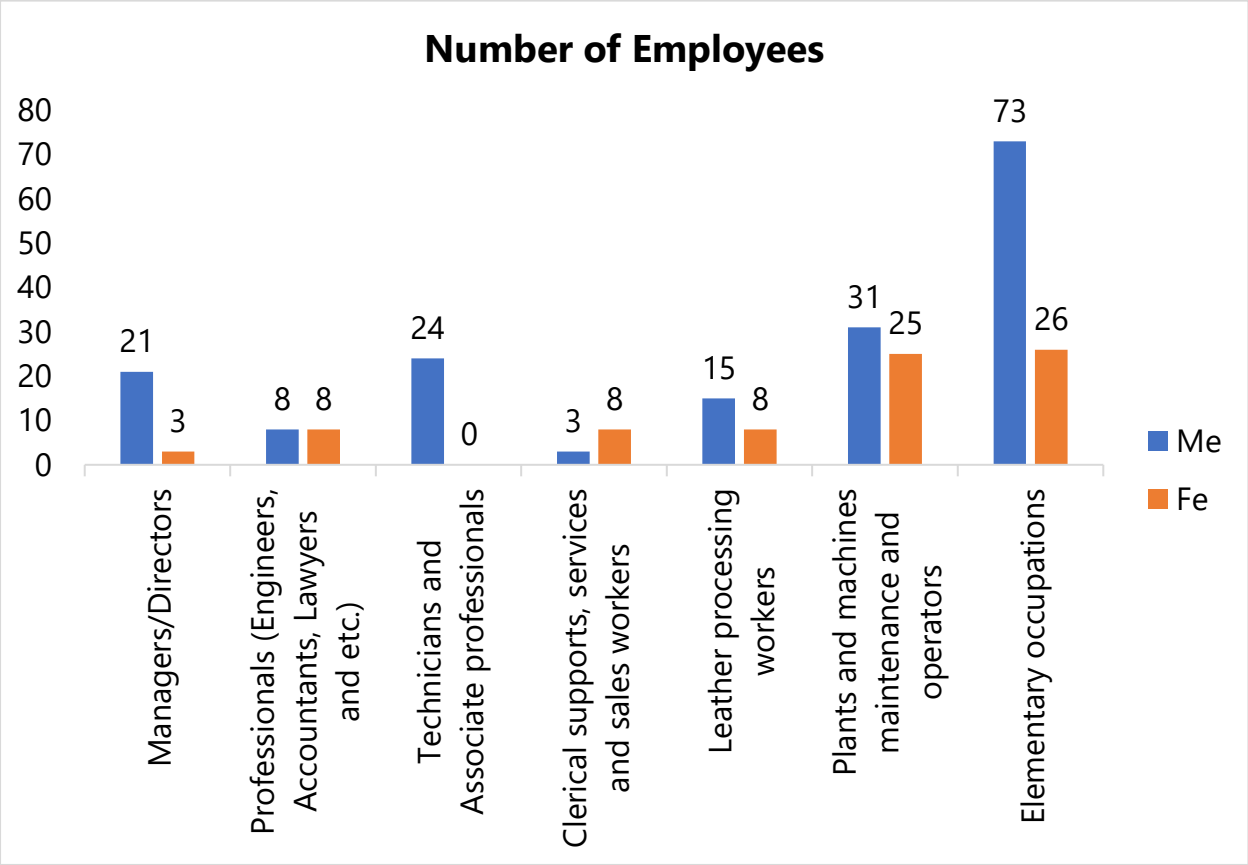

Figure 2.6: Employment category and gender in the tanneries

2.2 Raw Materials Availability for Leather and Leather products production

Like in any other manufacturing industries, leather and leather products' production requires the availability of high-quality hides and skin, leather, and other accessories (Salomão Filho 2011). In this regard, the study assessed raw materials availability, quality, quantity, and supply chain in Tanzania to grasp the raw material supply chain's current situation and potentials for improvement.

2.2.1 Supply and quality of raw materials for tanneries

The hides and skins originated from cow, goat and sheep continue to be the primary raw materials for the manufacturing of leather in Tanzania. The resultant leather is the raw material for leather products industry. Chemicals and other accessories are the supporting inputs required to complete the supply chain in the leather industry. While most countries such as China imports raw hides and skins (Matlhola and Chen 2020), Tanzania does not import hides and skins. The hides and skins are solely supplied from dealers within the country, as indicated in the findings that 100% of respondents get hides and skins locally. This might be due to the abundance of raw materials available in the country.

Most of the surveyed leather processors (60%) obtain hides and skins from central and lake zones (Figure 2.7). This is because zero grazing is the most-practiced livestock keeping style in these zones, particularly the lake zone where the improved breed is familiar. Such practices make hides and skins less susceptible to pre-slaughter defects, and the size and thickness of hides and skins become of the required standard.

The northern zone would be the leading zone in the supply of hides and skins owing to the largest livestock population (China and Ndaro 2016), but it is not the case. With a large concentration of pastoralists, the livestock keeping style adopted in the northern zone is traditional, keeping traditional breeds, mostly zebu type, grazing them on the grazing land (de Glanville, et al. 2020). Such practices are characterized by branding animals for identification and control of skin diseases is difficult with traditional animal keeping. Consequently, the hides and skins from the northern zone are of the most inferior quality among all Tanzania zones.

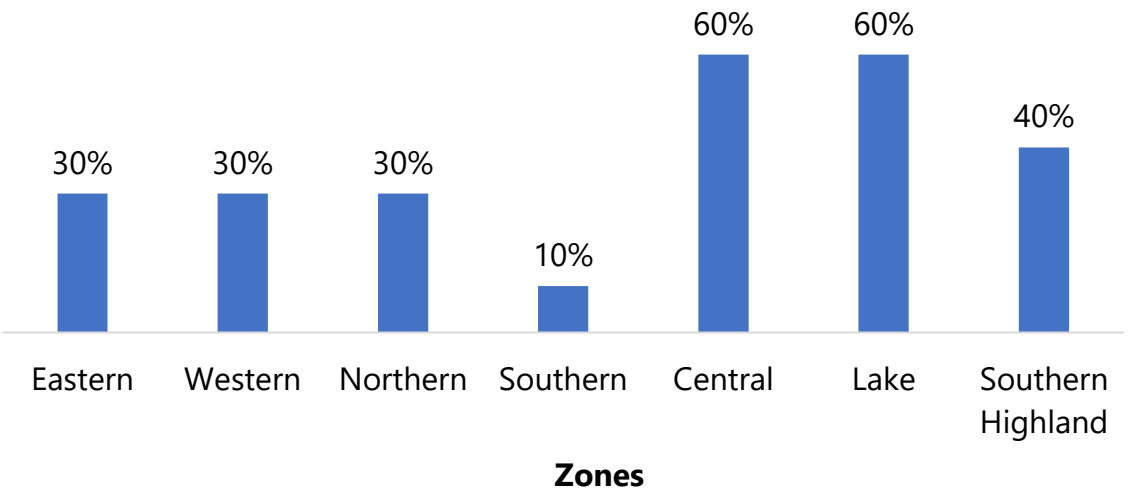

Figure 2.7: Source of hides and skins supplied to the tanneries in Tanzania by zones

Overall, the quality of hides and skins in Tanzania is challenging (Chasama, et al. 2017). About 90% of the leather processors indicated that they are unsatisfied with the quality of hides and skins supplied (Figure 2.8). Pre-slaughter, slaughter and post-slaughter defects are the reasons for the low quality of hides and skins in Tanzania. Pre-slaughter' causes of defects are brand marks, scars due to injuries, tick bites, skin diseases such as mange mites (scabies) and smallpox, while post-slaughter defects are caused by flay cuts, inadequate curing, and poor handling. Slaughter defects in hides and skins are mainly associated with breeding in the hides and skins (Naporos, 2012).

About 80% of the leather processors indicated that the brand mark plays a significant role in lowering the quality of hides and skin in Tanzania, followed by flay cuts (60%) small size and thickness (30%), skin diseases (20%) and defects due to inadequate curing (rotting) (20%) (Figure 2.9). These findings match those reported by Mbassa and Lugiza (2020) that 84% of animals in Tanzania are branded, adversely downgrading hides and skins' quality. The same study highlighted the chronic prevalence of flay cuts in the produced leather due to lack of equipment and trained personnel. Thus, the hides and skins produced in Tanzania are known to be of low grades (III-V) (The Citizen, 2020).

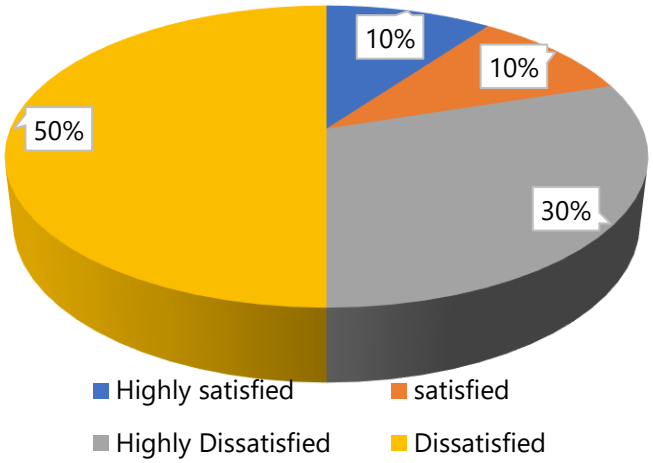

Figure 2.8: Tanners' satisfaction level with the quality of raw hides/skins

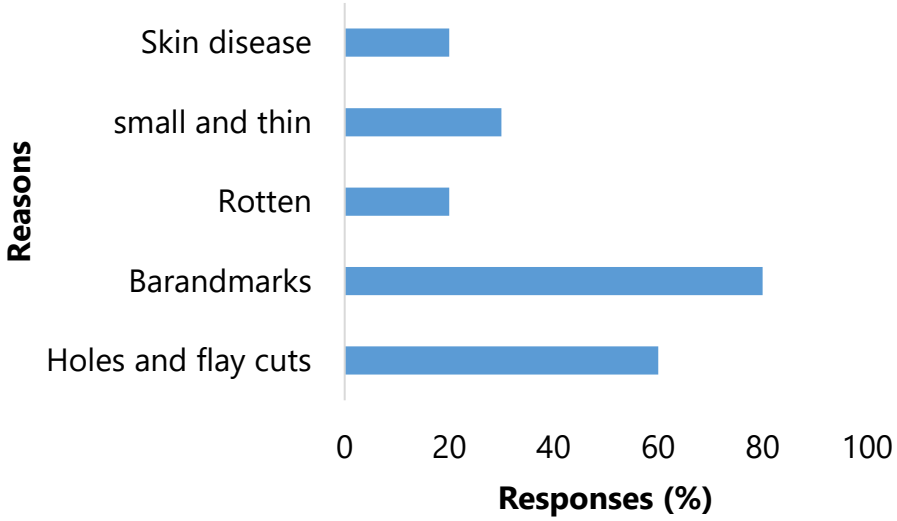

Figure 2.9: Reasons for low quality hides and skins produced in Tanzania

2.2.2 Supply and quality of raw materials for leather products industries

There is a close association between the quality of hides and skins and the quality of resultant finished leather, as revealed by leather products manufacturers' responses. They expressed average satisfaction by 63% to dissatisfaction by 31%, while very few (5.8%) are satisfied (Figure 2.10). Generally, leather products manufacturers are unsatisfied with the quality of the finished leather; hence, some choose to procure leather from outside the country, mainly Kenya (11.4%), Pakistan (5.7%) and Ethiopia (5.7%) (Table 2.4).

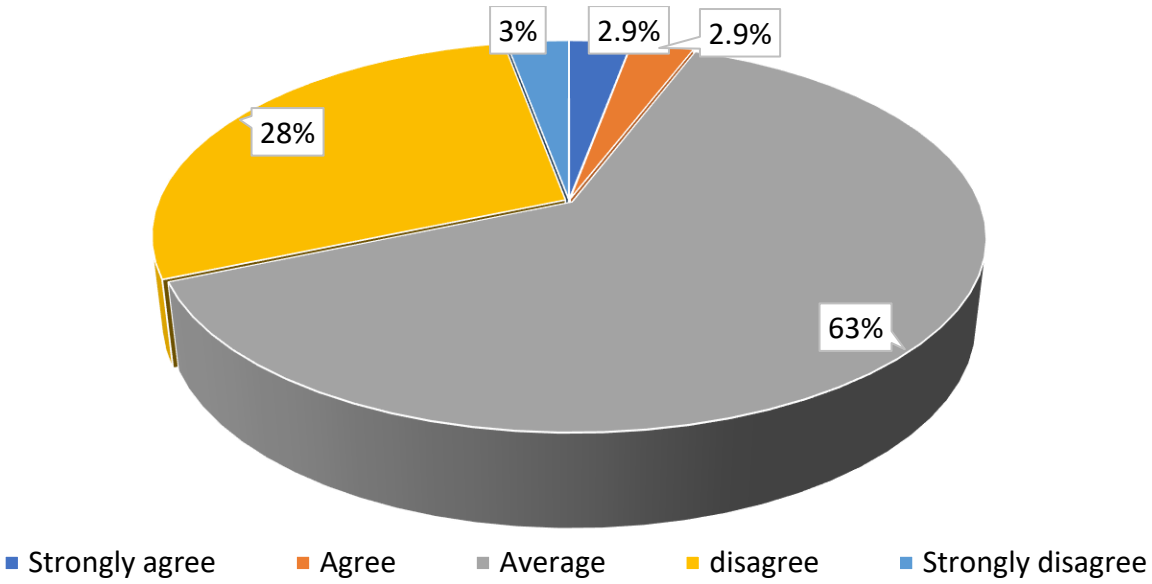

Figure 2.10: Satisfaction on the quality of finished leather expressed by leather products manufacturers.

Table 2.4 The suppliers of the finished leather to the leather products manufacturers

In the country	**Local Suppliers (%)**	
71.4%	Himo Tannery	42.5
	Moshi Leather	40.0
	WOP	48.6
	Dani	14.3
	Ace Leather	2.9
	Somji	5.7
	Bendera	5.7
	Plantec	5.7
Outside the country	Country (%)	
28.6%	Kenya	11.4
	Pakistan	2.9
	Ethiopia	2.9

The finished leather's local supply is dominated by Woiso Original Products (WOP) as it was the most frequently cited (48.6%). WOP is just a sister company of Himo Tanneries and Planters. It serves as a distribution centre for Himo Tanneries and Planters' finished leather to the leather products manufacturers located in the Eastern zone. Other suppliers cited often include Himo Tanneries and Planters (42.5%) and Moshi Leather Industries (40.0%) (Table 2.4) who supply to the leather products manufacturers in the Northern, Central and Lake zones.

The supplied finished leather is reported to be of inferior quality containing various defects on the surfaces. About 91.5% of the leather goods manufacturers are unsatisfied with the quality of finished leather (Figure 2.10), claiming that the supplied leather has many defects. Most of the highlighted defects are associated with pre-slaughter and slaughter defects, of which brandmark (50%), spots due to scars and skin diseases (50%) and holes due to fly cuts (40%) are the leading defects (Figure 2.11). Defects in the finished leather imply higher cost in producing leather goods due to the loss of a large leather area affected by defects; hence, significantly increasing the products price (Naporos 2012).

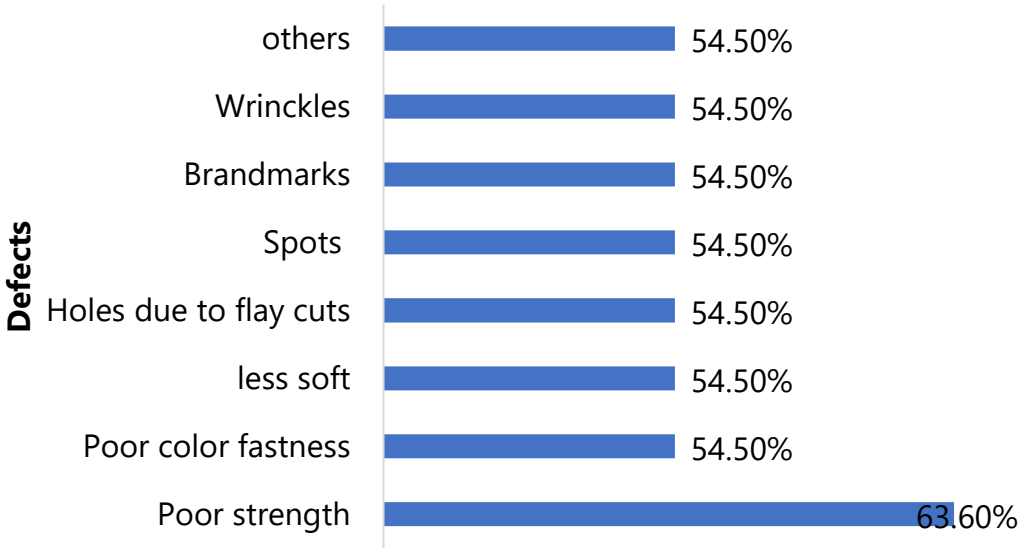

Figure 2.11: Defects on the finished leather produced in Tanzania

For accessories, most of leather goods manufacturers procure accessories from WOP (Figure 2.12). In fact, except for soles, WOP supplies the imported accessories from China to the leather products manufacturers, indicating unavailability of the factory to produce other accessories apart from soles. Absence of local factory for accessories presents an investment gap to complete the leather value chain of Tanzania. WOP has recently installed the machine for manufacturing soles and distributed to leather products' manufacturers. Kilimanjaro International Leather Industry Company is also

soon to produce soles as well (Mirondo, 2020). But there is still a need for more factories to manufacture other accessories.

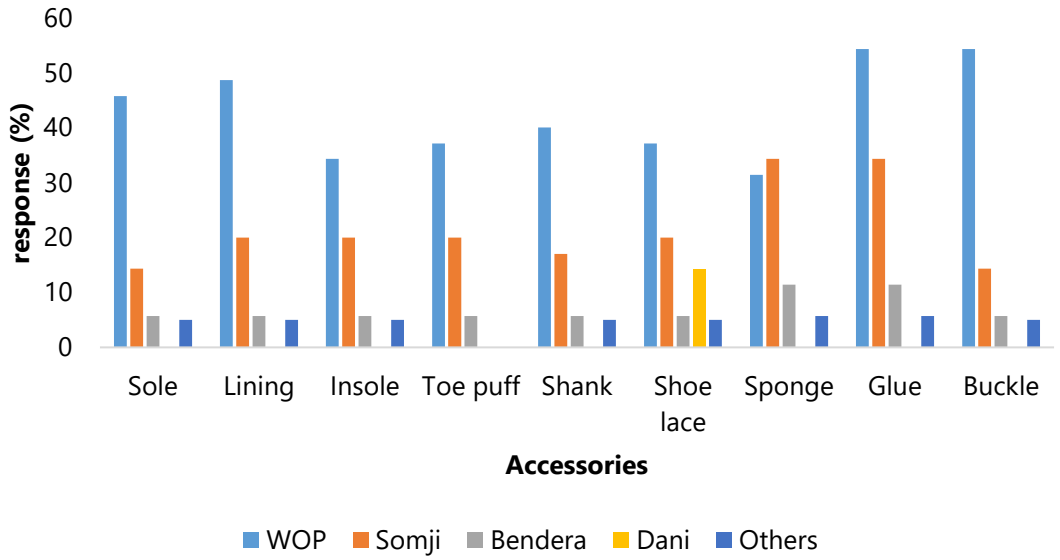

Figure 2.12: Local suppliers of accessories for making leather goods

2.2.3 Measures to improve the quality of raw materials in Tanzania

Quality plays a significant role in determining the performance of leather and leather products in the local and export markets. According to Lwesya (2018), the export of leather from Tanzania went down because its quality failed to attract more buyers. Therefore, it is essential to insist on quality improvement for the leather sector's growth in Tanzania.

To improve the quality of raw materials in Tanzania, suggestions from key actors (tanners and leather goods manufacturers) are crucial because they reflect practical solutions from their experience (Jabbar et al., 2002). Opinions from tanners and leather goods manufacturers about the possible measures to improve the quality of hides and skins and finished leather were gathered and presented in Figure 2.13.

The proposed measures given by key players include education to the hides and skins flyers (70%), education to the pastoralists (50%), education to the stakeholders (20%), timely preservation of hides and skins (20%). Other recommended measures are the supply of livestock extension services on time (10%), employing hides and skins officers (10%), increasing the price of hides and skins (10%) and use of flaying machines in abattoirs (10%). Similar suggestions were given by Mr Sabas Woiso, the Director of Himo Tanneries and Planters, in his interview with *The Citizen* newspaper of 19th October 2020.

The Government of Tanzania through the Ministry of livestock and fisheries since 2019 started the training programs to improve the quality of hides and skins. For instance, as previously suggested (Igbinnosa, 2011), in 2020 at least 765 butchers in Morogoro, Kilimanjaro, Arusha, Manyara, Kagera, Simiyu, Mwanza and Shinyanga were trained and awarded flay knife for skinning animals properly. Moreover, they were certified so that no uncertified person is allowed to flay an animal in the slaughterhouses (The citizen, 2020). With the Government's current efforts and working on tanners' suggestions presented here, the quality of hides and skins will improve.

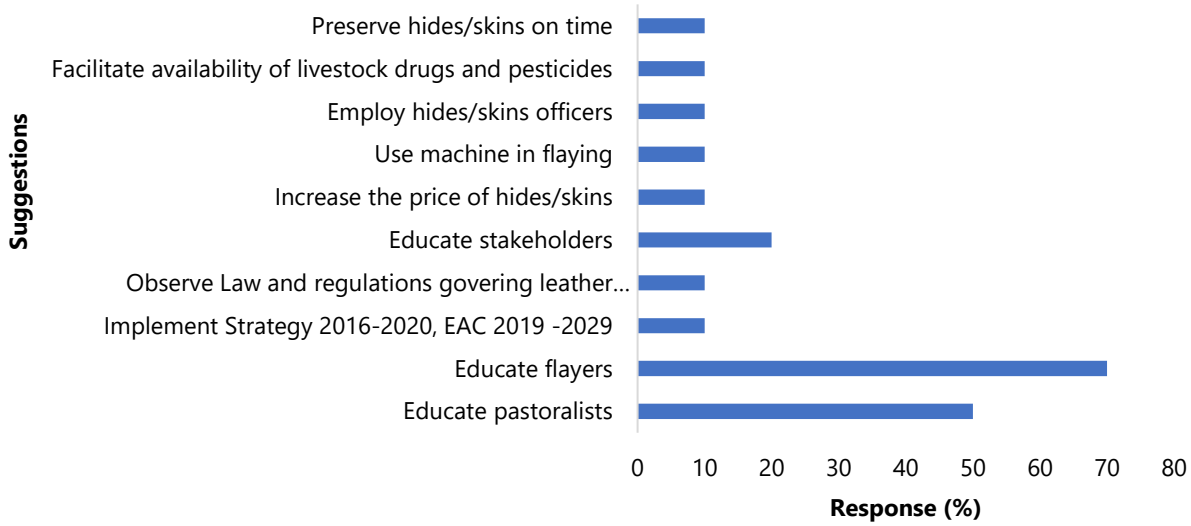

Figure 2.13: Suggestions on the improvement of the quality of hides and skins in Tanzania

2.3 Knowledge of Chemicals and Usage in Leather Industries

Leather processing employs various chemicals to convert collagen present in hides/skins to highly durable commercial forms of material termed leather (China et al., 2020b; Covington, 2009; Dutta, 1999). Although chemicals are necessary for leather processing, some chemicals contain hazardous ingredients/substances which are harmful to the human being (customers and producers) and the environment (China et al., 2020b). Due to that, many countries worldwide have set regulations to avoid hazardous chemicals in industrial processes. Some of the regulations are Integrated Pollution Prevention and Control Directive (96/61/EC 1996; 2008/1/EC 2008), the Directive (REACH) (EC 1907/2006) for European Regulatory Framework on chemicals (Iofrano et al., 2013). In respect to that, it is vital to use the chemicals which comply with standards for possible access to the international market while protecting the public health and the environment. Therefore, the study assessed the chemicals used by leather industries in Tanzania. The assessment focused on their sources, availability, and knowledge of toxic ingredients.

2.3.1 Chemicals used by tanneries Industries in Tanzania

Table 2.5 presents the most chemicals used by visited tanneries industries. The results show that tanneries use more than 25 chemicals. The chemicals used are not entirely fixed by hides/skins and end up to the environment (Mannucci et al., 2010). Proper management and disposal for leather waste are essential to avoid environmental pollution and its effects on workers and the surrounding population.

Table 2.5 Chemicals used by Tanneries Industries

Chemicals	**Responses (%)**
Ammonium Sulphate, Basic Chromium Sulphate, Busan 1346, Neutralizing, Replacement, Soaking Enzyme, Soda Ash, Sodium Bi Sulphate, Sodium Sulphide.	90%
Acrylic Resin Syntan (Lunatan Arn), Aluminium Syntan (Lunatan Pat), Pigments., Neutralising Syntan (Lunatan Ns), Leather Tanning Chemical, Replacement Syntan (Lunatan S), Vegetable Syntan, Synthetic Organic Dyestuffs.	50%
Melamine Syntan, Casein Binder (Tex Binder Mp), Chrome Syntan (Lunatan Wcr)	40%
Aqueous Polyurathene Resin, Aqueous Polyurathene Resin Ru 3901, Dye Leveller (Lunatan Dds), Caesin Binder, Copolymer Syntan (Lunatan Ae 30), Black R.K Paste (Synthethic Organic Dye)	30%

2.3.2 Accessibility of the chemicals

The majority of the tannery industries purchase chemicals through suppliers (90%), while 30% acquire directly from manufacturers and 10% get the chemicals through other means like preparing organic chemicals themselves (Table 2.6). About 40% of those who purchase from supplier said chemicals are readily available through suppliers than acquiring directly from the chemicals manufacturers, while 60% did not mention the reasons. Of the 30% who purchase directly from the chemicals manufacturer, 10% said they are buying directly from a manufacturer outside the country because there are no local manufacturers of chemicals for leather industries.

Table 2.6 Chemicals accessibility

Response	Direct access from manufactures (%)	Through Suppliers (%)	Other Sources (%)
Yes	30	90	10
No	70	10	90
Total	**100**	**100**	**100**

2.3.3 Challenges of chemicals accessibility

When asked if the chemicals are readily available, all the respondents (100%) said the chemicals are not readily available for different reasons as presented in Figure . The principal reasons being chemicals not delivered on time (90%), chemicals do not have the required quality/substandard (20%) and most chemicals contain toxic ingredients/restricted substances (20%).

This study's key findings regarding chemicals availability in Tanzania are that almost all of the chemicals used by tanneries are imported (TRA data of imported chemicals of 2017 to 2020). The importation of chemicals may contribute to many challenges facing the industries, including chemicals unavailable on time, low quality, difficult language on materials Safety Data Sheet, as mentioned by respondents (Figure). This situation calls for the Government and the investor's attention to establishing chemical industries in Tanzania. Investors can invest in manufacturing chemicals like Soda Ash, fat liquors, Chrome salts, lime, detergents, and sodium chloride inside the country as the raw materials are abundant. The Government discovered soda ash in the Engaruka Basin in Arusha Region, Monduli district is suitable for the manufacture of sodium bicarbonate and detergents. Leather processing employs these chemicals; hence there is no need to import if the government invests. Therefore, there is a need for conducting a feasibility study on the possible establishment of chemical manufacturing industries feasible in Tanzania for leather processing.

Figure 2.14: Challenges of accessing and using chemical.

2.3.4 Restricted chemicals/toxic ingredients

Chemicals, whether from synthetic or natural origin, end up either in the final leather and potentially also in the environment (wastewater, sludge, by-products, and gaseous emissions). Tanneries must comply with a rapidly increasing set of regulations and commercial specifications, restricting the use of chemical substances considered to have hazardous or toxic properties to compete at the international market. Hence, it is logical for the leather industry to have a good understanding of restricted substances. This study evaluated both leather processors and leather products manufacturers' knowledge of the restricted substances found in the chemicals used for processing hides and skins.

2.3.5 Awareness of Toxic ingredients

Of the interviewed respondents, 80% of leather processors and 8.6% of leather products manufacturers know about toxic ingredients/restricted chemicals. It seems the awareness of toxic chemicals for leather products manufacturers is very low compared to leather processors. This gap might be because leather processors use these chemicals directly in their day-to-day activities. However, it is equally important for leather products producers to be aware of toxic ingredients in the finished leather. It will guide them to buy leather that meets market standards of restricted chemicals in the leather articles.

The study went further to confirm if respondents know restricted chemicals by their name and if they consider their presence when acquiring chemicals for use (leather

processors) or when purchasing leather for making products (leather products manufacturers). The study further assessed the means of detecting the presence of toxic ingredients in chemicals and leather products. Restricted chemicals mentioned by leather products manufacturers were Chrome (5.7%), Formalin (2.86%), and concentrated acid (2.86%). Leather processors mentioned Chrome **(**50%), Sodium Sulphide (40%), Ammonium Sulphate (30%), Formalin (30%), acids and Bussan (20%), and 10% mentioned lime, Sodium Sulphate, Calcium chloride, Urea, bacteriocide. Comparing the mentioned chemicals and those listed in the international treaties and agreements administered by the United Nations that limit specific chemicals, the respondents almost do not know the toxic ingredients in the leather industry's chemicals. Of the mentioned chemicals only Chrome, (and not all Chrome but Chrome IV) is a restricted chemical. A total of 90% of leather processors and 20% of leather products manufacturers said they consider the toxic ingredients' presence through various means as presented in Table 2.7. The mentioned means of detecting restricted chemicals by respondents are correct. However, the lab testing methods are highly recommended compared to others as it removes all the doubt and risks of using sub-standard chemicals, including the chemicals containing the toxic substance.

Table 2.7 Means of detecting the presence of the toxic ingredient

Tanneries' means of checking the presence of restricted chemicals.	**Responses (%)**	**Leather product's means of considering the presence of restricted chemicals.**	**Responses (%)**
Import or buy chemicals from reputable companies	60	Analyzing the leather sample	0
Look for a quality logo and label	70	Requesting the information of chemicals used to process leather	50
Use MSDS as a guide	70	Asking the leather processor if the leather contains restricted substances	50
Testing of chemicals in the laboratory before using them	40	Purchasing leather from a certified leather processor	50
		Identifying health impacts after using processed leather	50

2.3.6 Effects of restricted chemicals

The restriction of some chemical substances mentioned in the list of restricted substances is based on their adverse effect particular to consumers' health. The health effects include different forms of cancers, skin diseases, and hormonal imbalance, to mention the few.

The finding shows that 80% of the leather processors and 17.1% of leather products manufacturers could mention at least one effect of the restricted substances. Most of the mentioned effects were health problems. Only 10% of the respondents mentioned the environment effect of the restricted substances (Figure 2.15). Compared with other studies conducted in different countries, most of the diseases mentioned by respondents associated with the restricted chemicals are correct (MBBS et al., 2010). The restricted substances are equally dangerous when they enter the environment as they can stay for years and pass to the food chain.

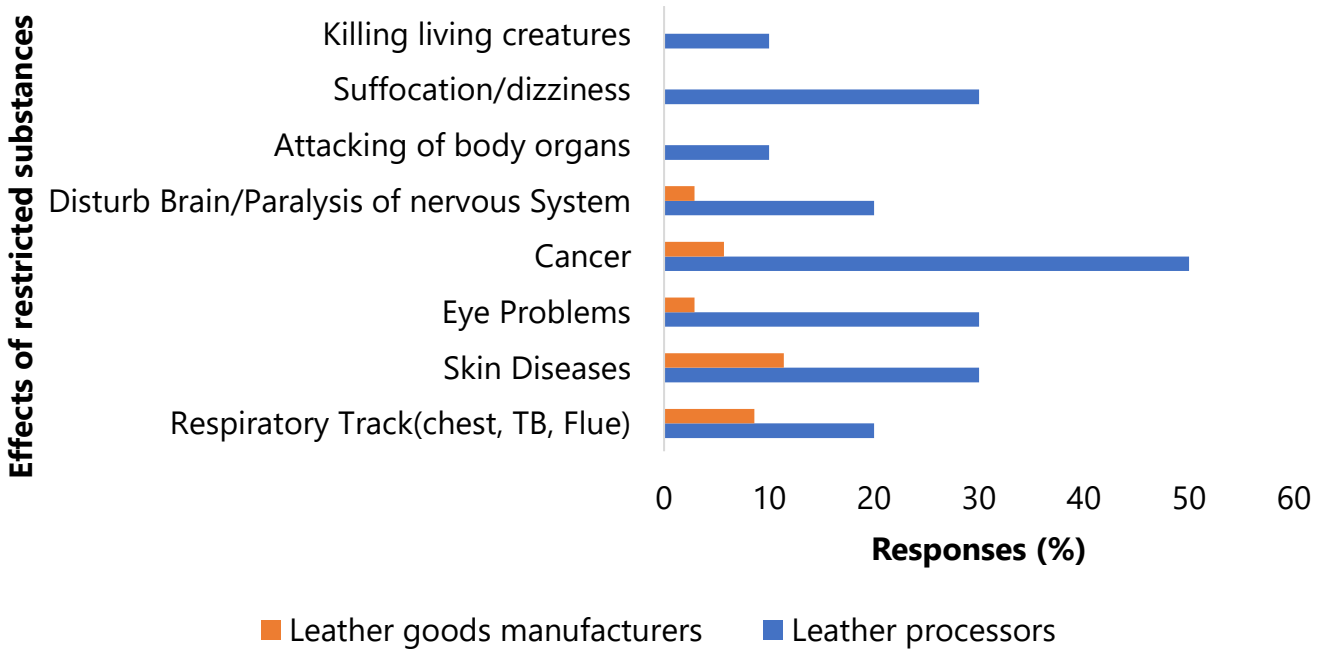

Figure 2.15: Effects of restricted substances to the consumers and environment

2.4 Technology Assessment, Industrial production, and Capacity Utilization of the leather Industries

Modern technologies in the leather sector are more efficient and cleaner to reduce pollution emissions and waste generation. The methods include Enzyme unhairing, Chrome recovery and recycling, recycling of tannery liquor, High exhaustion technologies, Chrome-less tanning, Chrome-free tanning, and Combination tanning etc. Uses of modern technology increase productivity by reducing production costs and reducing the usage of toxic chemicals that are harmful to humans, thus producing toxic free products, which is the International market's requirement (China et al., 2020b). Therefore, the use of modern technology is important to meet international standards for leather and leather products.

The survey revealed that half of the visited tanneries have no modern technologies to process leather or plan to use these technologies in future. Small scale leather processors apply local processing methods such as usage of Mimosa and fish oil.

As for manufacturer of leather products, 11% of the surveyed establishments use modern automated technologies, 40% have planned to use in future, and 49% neither uses nor has the plan to use in future. The reasons that most of the establishments do not use or plan to use were responded to be the lack of capital, lack of awareness and knowledge on available modern technologies, and high operation and maintenance costs as a result of the use of those technologies. This is because the majority of the leather products' manufacturers are small enterprises.

2.4.1 Capacity utilization of the leather industries in Tanzania

Capacity utilization refers to the current production level compared to what would have been produced if all the machinery/equipment were fully engaged in production activities. Figure 2.16 and Figure 2.17 show capacity utilization of the large tanneries and SMEs, respectively. Majority of leather processors operated below their respective installed capacities with an average production capacity utilization of between 21% and 40% for large establishments and average capacity utilization of between 41% and 60% for SMEs. This is based on the production data collected from tanneries for the past three years, 2017, 2018 and 2019.

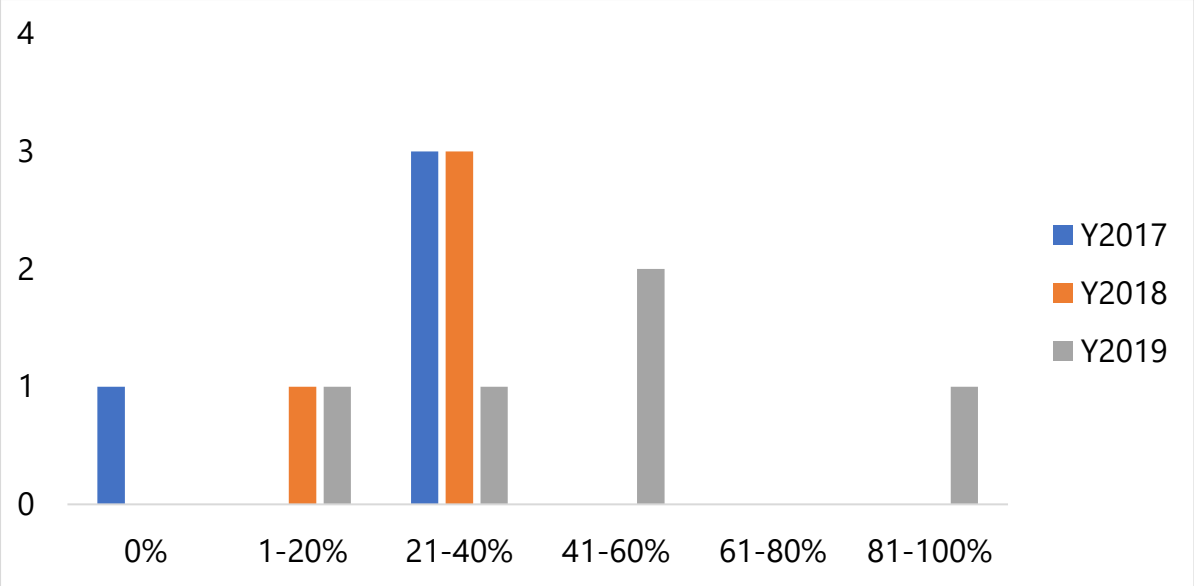

Figure 2.16: Production Utilization capacity of the large leather processors in Tanzania

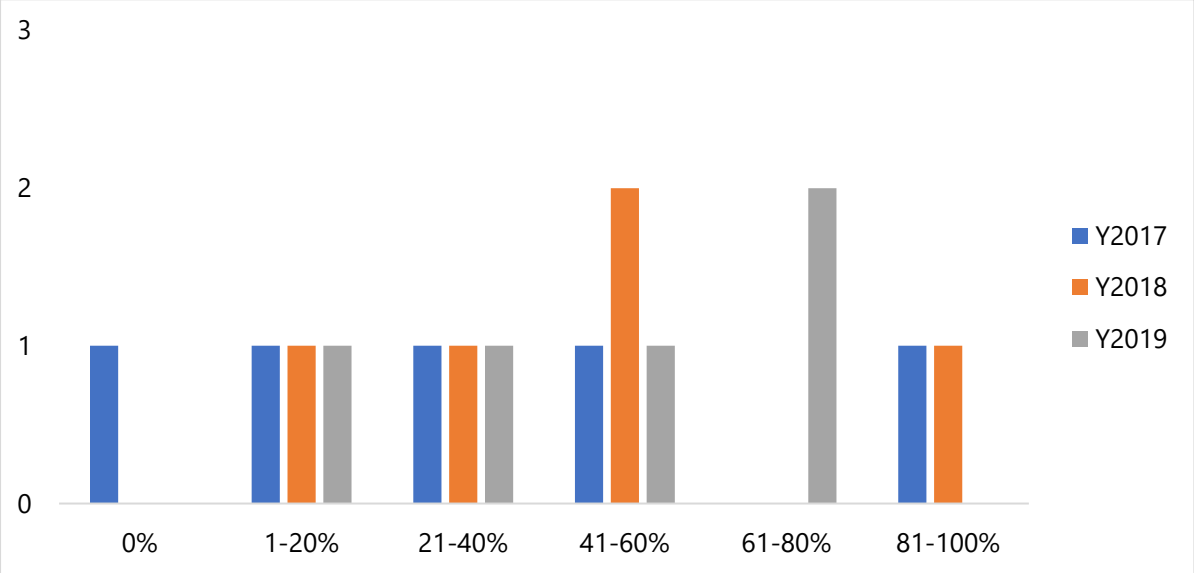

Figure 2.17: Production Utilization Capacity of the SMEs leather processors in Tanzania

Based on the survey of the tanneries, the capacity utilization is very low mainly because of high competition from artificial imported leather (15%) together with the shortage of quality raw materials available locally (15%) and unreliable power supply (11%). Lack of finance due to inadequate financial services and high loans was common among SMEs in leather processing.

Most of the leather products manufacturers also underutilize their existing production capacity with an average production capacity utilization of between 21% and 40%. This is based on the production data collected from manufacturers of leather products for

the past three years, 2017, 2018 and 2019. Figure 2.18 shows the capacity utilization of the Manufacturers of leather products in Tanzania.

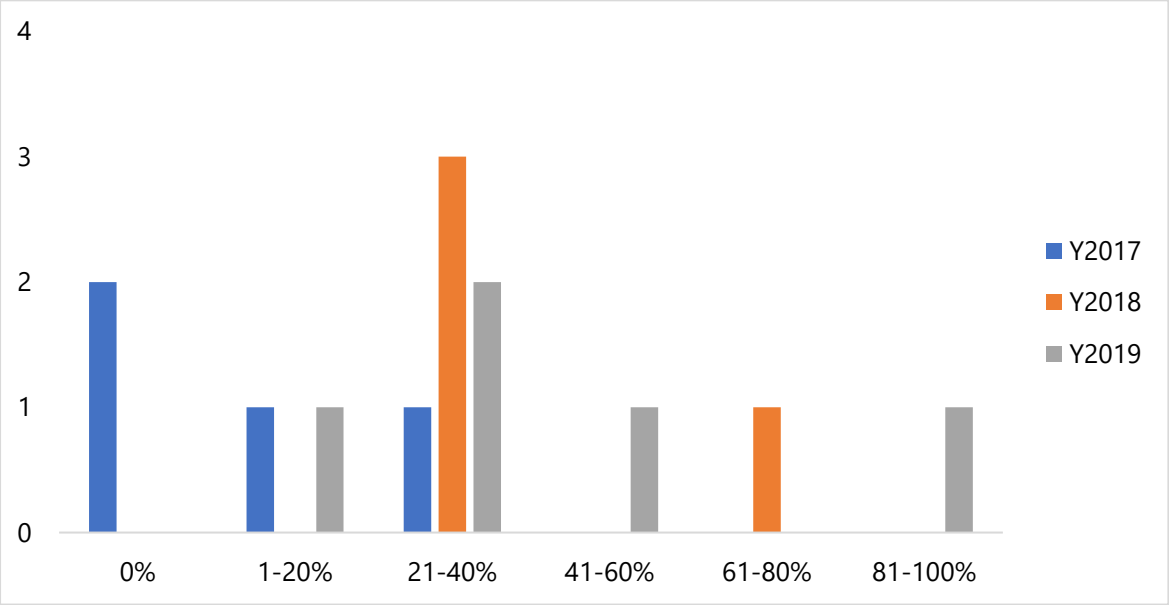

Figure 2.18: Production Utilization capacity of Manufacturers of leather products in Tanzania.

The reasons for underutilization, as the survey revealed, were high competition resulted from the presence of fake products and used products (*Mitumba*) in the market. This was a typical response to most small manufacturers of leather products that 12% respond to it. Other reasons were a shortage and high cost of locally available processed leather and less Capacity to access export market due to the high production cost. By observation, most of the small establishments use manual handworks to produce products such as shoes, belts, bags and operate by "order to service" business that became unrealistic to determine their actual utilization capacity.

2.5 Market Situation for the processed leather and leather products

The local tanneries and leather goods manufacturing market in Tanzania continues to face severe challenges from cheap imports that continue to suffocate local production (Wangwe et al., 2014; Wetengere, 2018). Access to the export market is also a challenge (Lwesya 2018). Local manufacturers' ability to keep up with the foreign competition is low due to inadequate artisans' skills in design concepts, fashion trends, tools, and marketing (China and Ndaro, 2015). In this section, the current market situation is analyzed for gaining market understanding to propose possible interventions.

2.5.1 The market for leather and leather products manufactured in Tanzania

Figure 2.19 displays the distribution of the local and international market for leather and leather products. Both tanners and leather products manufacturers prefer the local market as 60% of tanners, and 95% of leather goods manufacturers sell their commodities in the local market. Few of them (10%) operate in both the local and export market, whereas, none produces for the export market only.

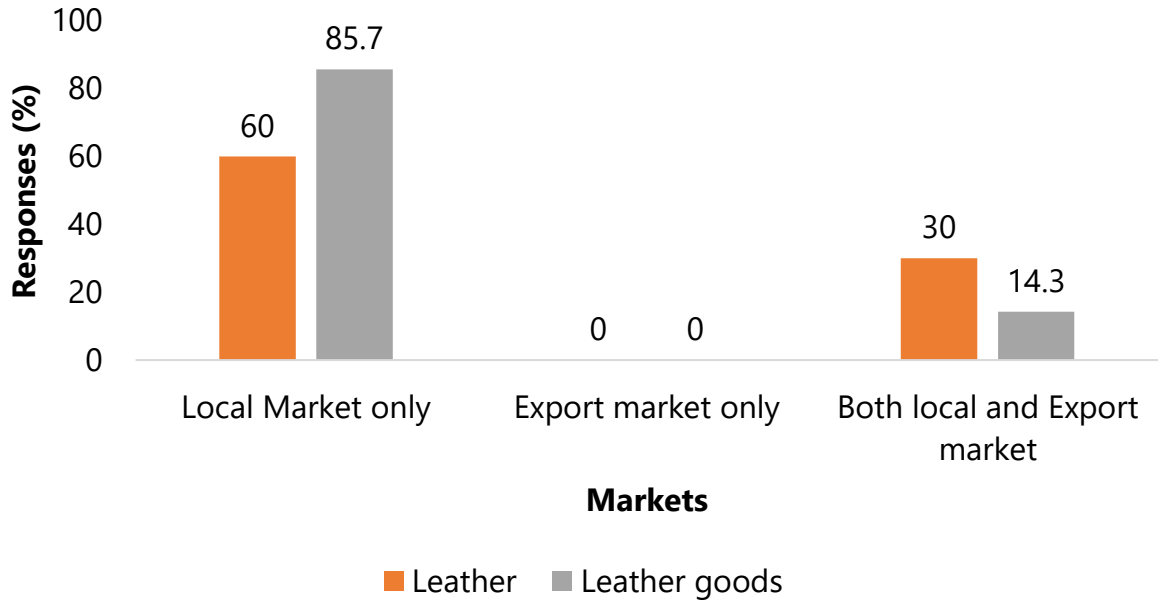

Figure 2.19: Market distribution for leather and leather products produced in Tanzania

Inability to exploit export market effectively is due to several constraints includes; Low capacity of distribution (69%), failure to meet international standards (35), less ability to grab opportunities in the international markets (34%) and global leather trade crisis (33%), low motivation (20%) were highlighted by tanners and manufacturers that stand as a hindrance to access export market (Figure 2.20). In addition to that, literature has reported inability of the industry to address market demand, small-scale production, fragmented nature of the industry, lack of market information, less access to finance and access to new techniques to significantly contribute to the failure to venture the export market (URT, 2015).

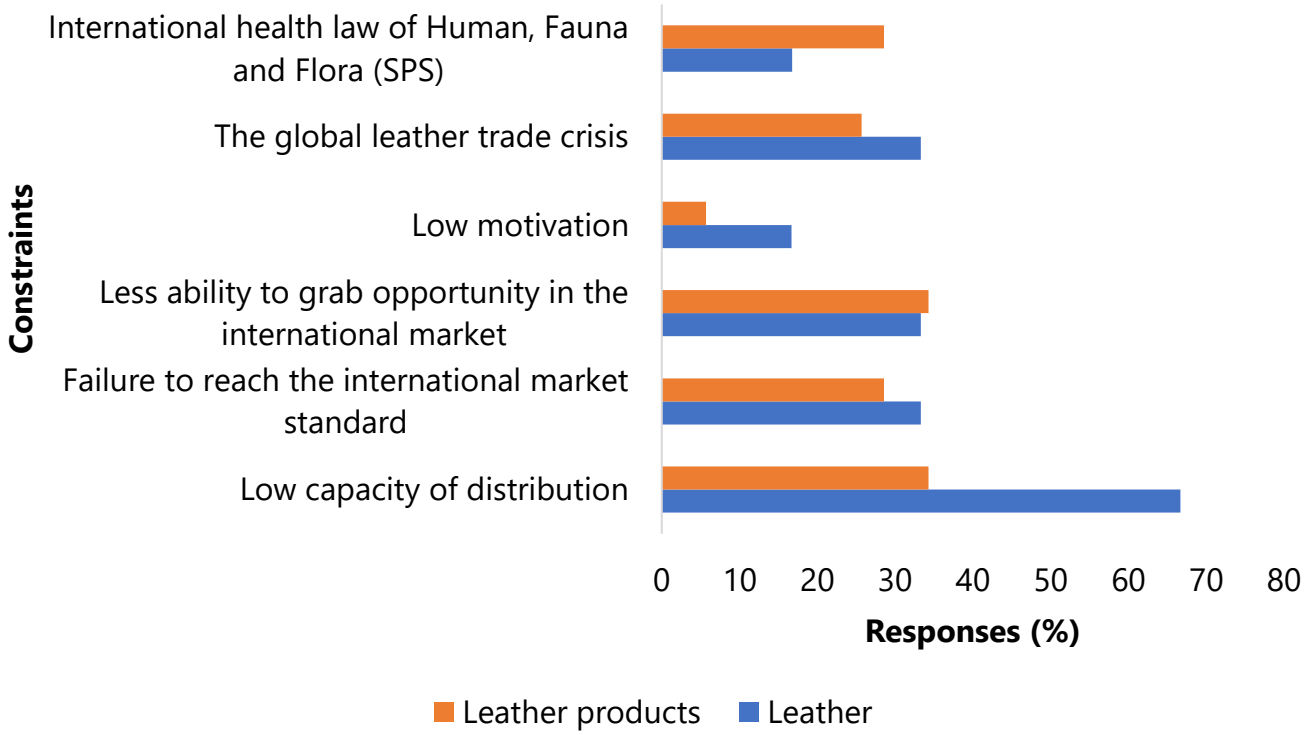

Figure 2.20: Restrictions that inhibit access to the export market

While 60% of the surveyed tanneries trade on semi-finished leather mostly to the export market, very few (10%) goes to the finished for the local market (Figure 2.21). Figure 2.22 represents the countries of export for semi-finished leather from Tanzania. Most of the surveyed tanneries cited China (30%) and Kenya (20%) as the most common markets for semi-finished leather. Other countries were England, Italy and Ethiopia, which account for a small portion of the semi-finished leather market from Tanzania.

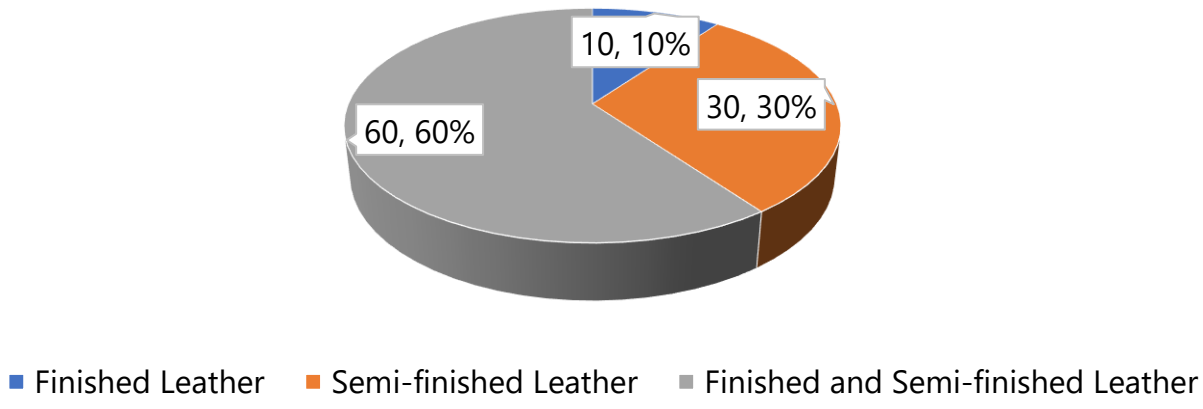

Figure 2.21: Stages of the leather entering market

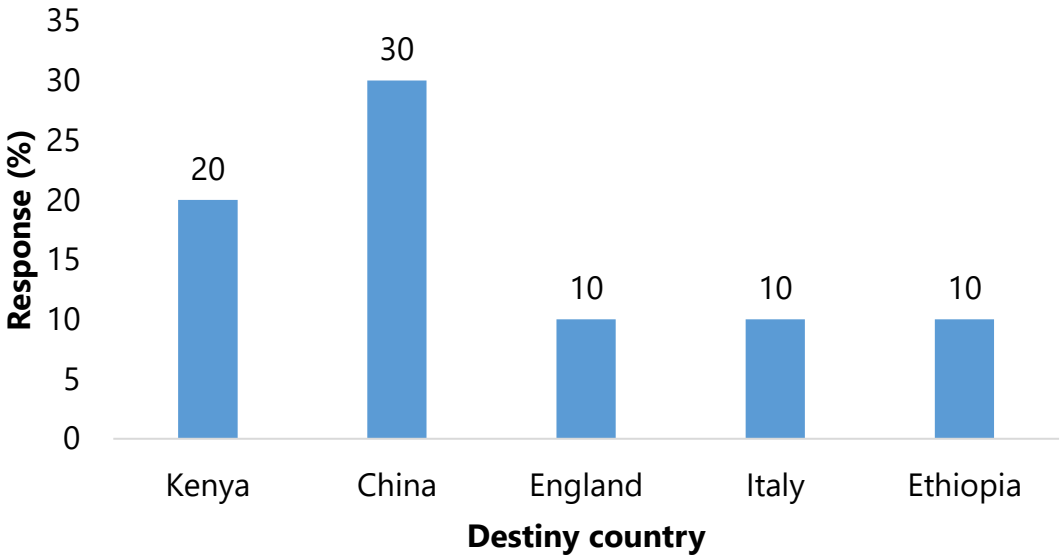

Figure 2.22: Destiny countries for semi-finished leather from Tanzania.

2.5.2 Competition in the market for leather and leather goods

Leather products often face intense competition from plastic products and second hand. Figure 2.23 summarizes the competition level faced by both leather and leather products in the local and export markets. The local market competition for leather goods is higher (60%) than the leather market (20%), attributed to the presence of cheap plastic goods and second-hand products that compete unfairly with local leather products. Most Tanzanians prefer wearing rubber, plastic, or artificial leather shoes (imported or locally produced) than real leather shoes (Dinh and Monga, 2013). Such preference is attributed to their low income to afford the price for leather goods, lack of awareness about the quality and durability of leather goods, and lack of awareness of availability of leather products. Leather goods manufacturers have shifted to producing plastic products rather than leather products to meet their customer's demand. If not adequately controlled, soon plastic products market can kill the leather products market in Tanzania and adversely affect the leather sector.

Local competition for tanners is low because currently there are few operational tanneries in Tanzania. Among the nine large tanneries, only four are functional, while others are closed (MFP, 2018). Tanners face competition in the export market of semi-finished leather (50%) due to low quality caused by defects on the raw hides and skins used to make such semi-finished leather (Figure 2.23Figure 2.23).

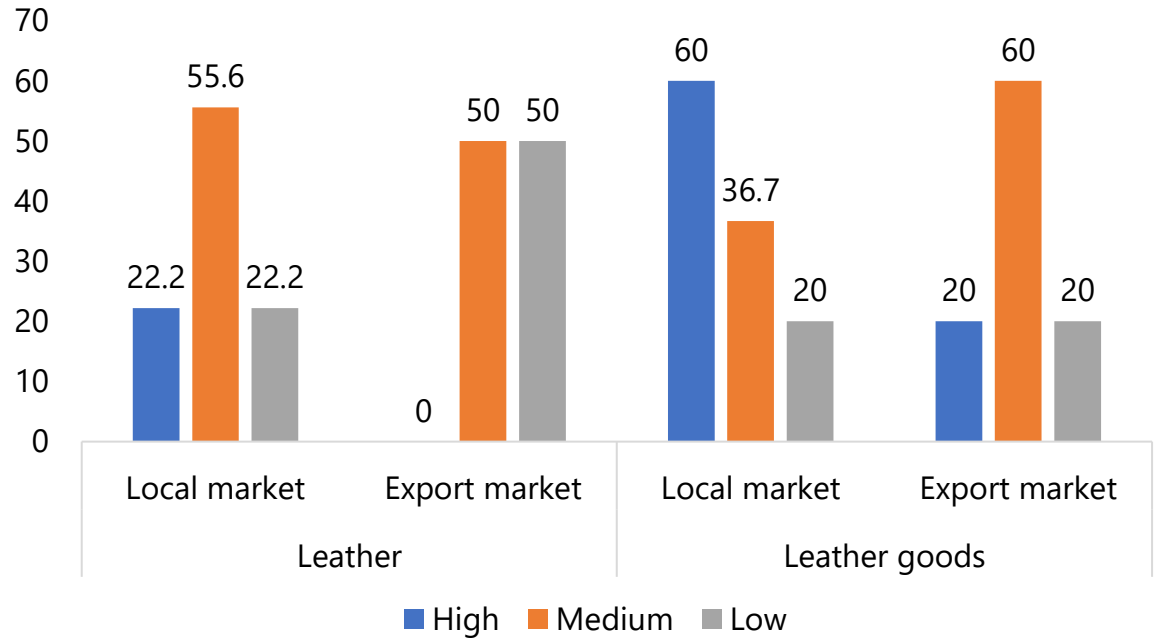

Figure 2.23 Level of competition in the local and export market

2.5.3 Customer satisfaction

Seeking to satisfy customers is the key to survival in the market. The leather customers' satisfaction lies on the average scale. To some extent, tanners satisfy their customers as around 30% of the surveyed tanners cited the customers' high satisfaction (Figure 2.24). Very few seem to be dissatisfied with the leather. On the other hand, most leather goods manufacturers satisfy their customers in almost all customer segments. But a small proportion of youth is not happy (Figure 2.25).

The most frequent reasons for customer dissatisfaction with the quality of leather are low quality (80%), late delivery (60%) and low production capacity (50%). High price (70%) has also contributed to the customer's dissatisfaction. Most of the customers for leather products are satisfied with the quality of the products. However, the small portion of respondent who is unsatisfied mentioned poor quality (100%), low production capacity (100%), delivery delays (100%) and high price (70%) as the reason their dissatisfaction (Figure 2.26).

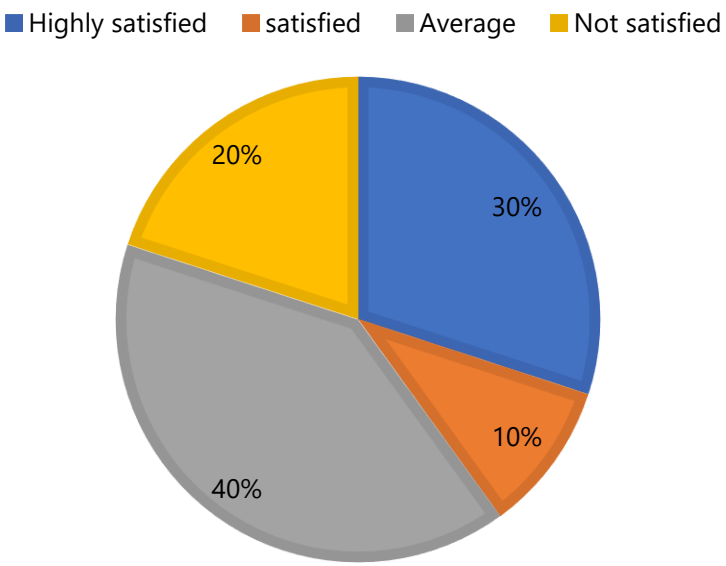

Figure 2.24: Customers satisfaction level for leather

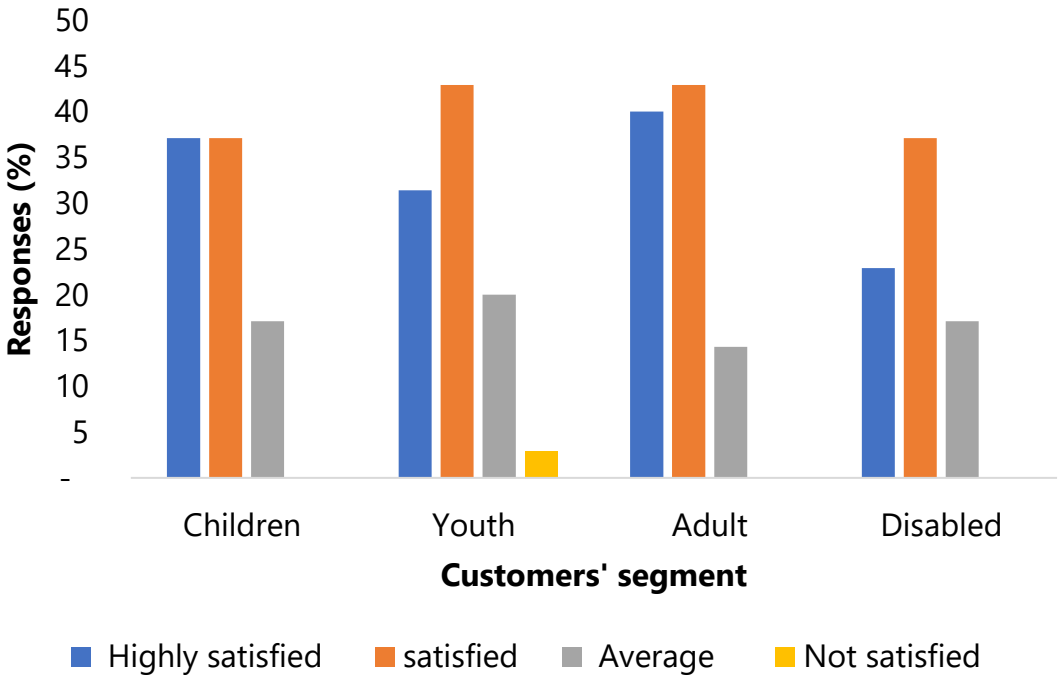

Figure 2.25: Customers satisfaction for leather products

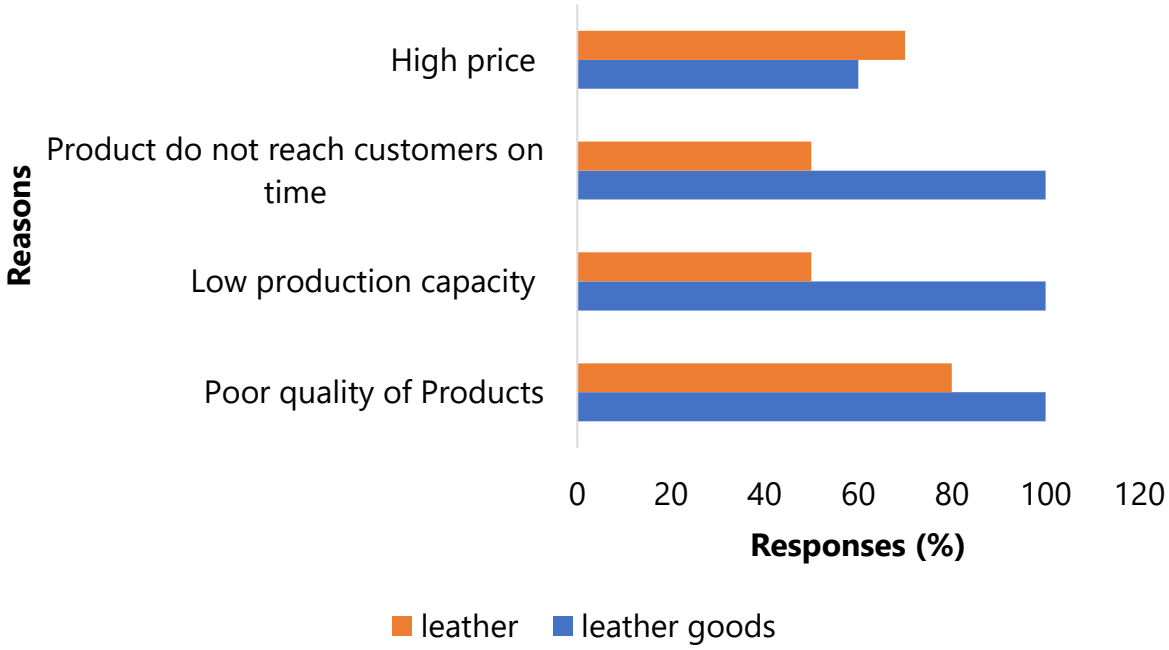

Figure 2.26: Reasons for customers dissatisfaction with the leather and leather products quality

2.6 Health and Environmental impact/management of Leather and Leather products manufacturing

The leather industries generate large volumes of waste which can cause significant adverse environmental impacts (Bódalo et al., 2007; Chen et al., 2008; Panswad et al., 2001). If not well managed, the wastes from leather industries can cause many impacts to the environment and human health as most of them contain harmful chemical (China et al., 2020b; Covington, 2009). Approximately, tanneries generate about 800 kg of solid waste for every ton of hides processed from raw to the finished stage. The wastes constitute 50-60% fleshings, 35-40% chrome shavings, chrome splits and buffing dust; 5-7% skin trimmings and 2-5% hair (Kanagaraj et al., 2006).

The present survey assessed various types and quantities of leather waste generated by tanneries and leather products industries. The study also explored the current disposal and utilization of waste, awareness of the effects of waste and challenges faced on managing waste generated.

2.6.1 Types and amount of wastes generated by tanneries and leather products industries

2.27 and Figure 2.28 present various types of waste generated from the visited tanneries and leather products industries. The respondents mentioned wastes

commonly produced by tanneries in Tanzania as follows; trimmings (100%), buffing 30%, (100%) leather solid waste (88.57%).

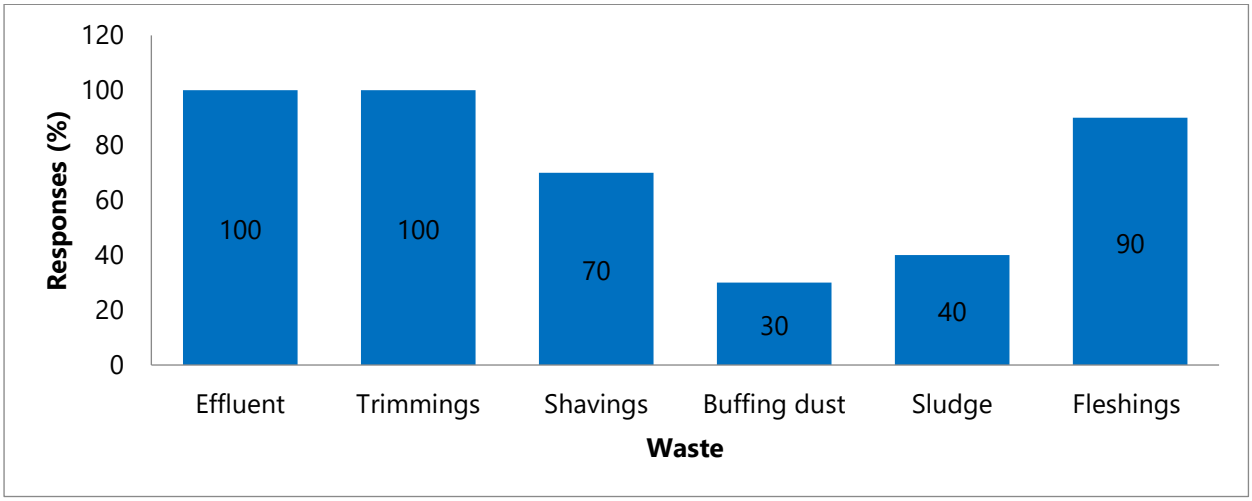

Figure 2.27: Types of waste produced by tanneries

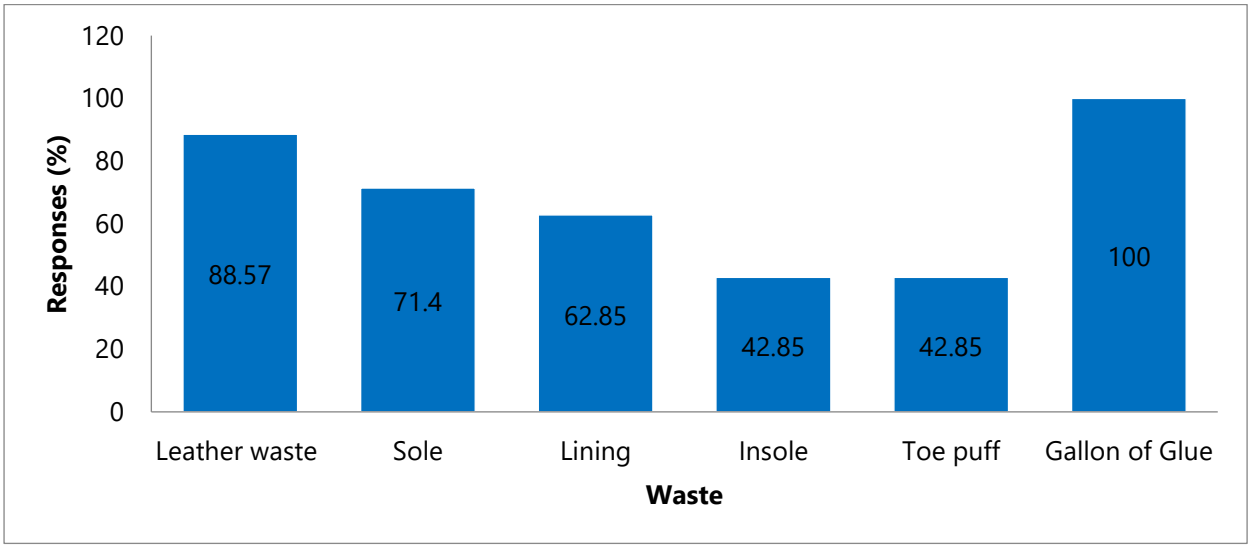

Figure 2.28: Types of waste produced by leather products industries

When asked about the amount of waste produced, it was found that most of the industries do not quantify the amount of waste and do not keep records. Only 10% of the tanneries could state the quantity of effluents (8732 m^3) and 10% could state the trimmings' quantity (60 tons). Most leather products manufacturers could not mention the amount of generated waste for leather products industries. Still, few mentioned leather waste amount ranging between 50 to 98 kg, toe puff 100 kg to 1 ton, sole 50 kg to 1 ton, lining 6 to 70 kg. It was also observed that the wastes are not separated according to their nature; instead, they are mixed up. According to EPA (2020), this is an improper waste management practice. Waste should be characterized and segregated. Also keeping the records of the amount of waste is crucial for waste

management. Knowing the type and amount of waste produced can help to decide the right disposal method.

2.6.2 Waste management and disposal methods

Methods used for wastes disposal by tanneries and leather industries are presented in Figure 2.29 and Figure 2.30, respectively. For tanneries, the most common way to manage effluent (liquid waste) is treating the waste before disposal (50%). For solid waste, the most mentioned methods were burning (30%), burring (30%), and landfilling (30%), making of manure and animal feed (20%) and throwing at the dumpsites. For the leather products industries, 80% give it to municipal collectors, 20% burning, 20% recycling, 10% burring and 10% sell the glue gallons for reuse/recycling.

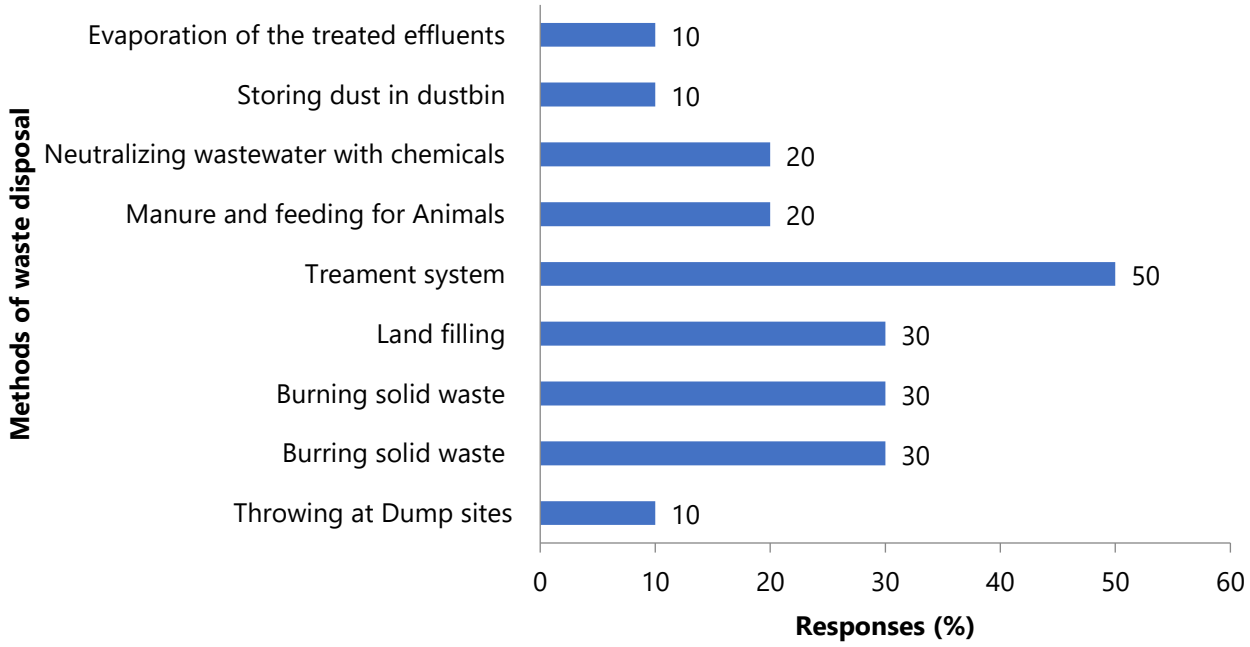

Figure 2.29: Methods used by tanneries for wastes disposal

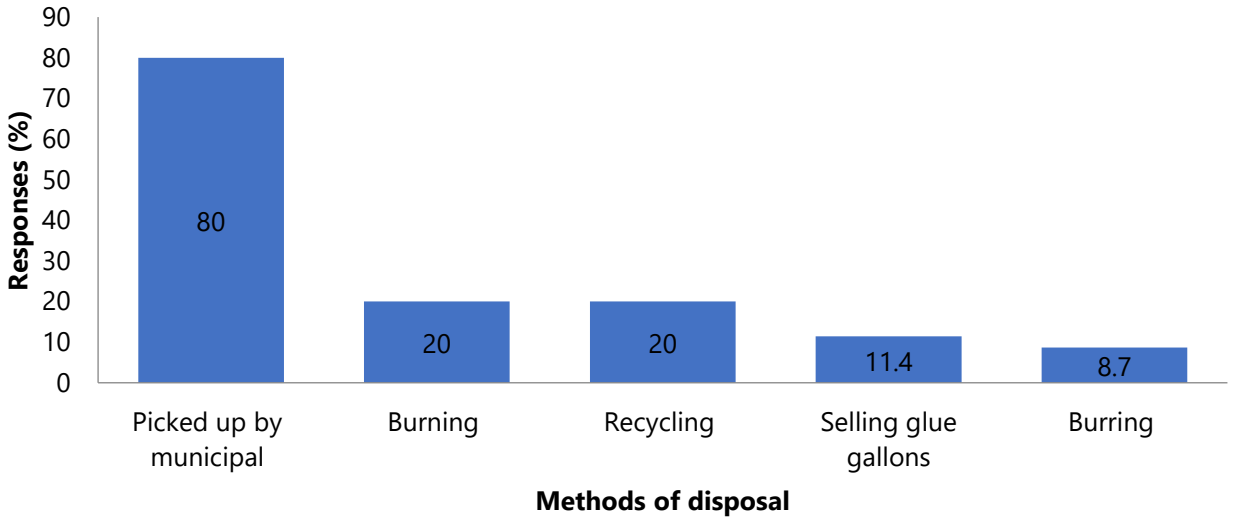

Figure 2.30: Methods used by leather industries for waste disposal

Some of the disposal methods mentioned like burning and landfilling are not recommended. The most recommended waste management method is segregating different waste/residue fractions to facilitate recovery and re-use in the manufacture of products such as pet toys, pet food and leather fiberboard. Other means include recycling sludge as compost, soil conditioner or in anaerobic digestions for energy generation. Use of sludge for manure must be done after appropriate assessment for contaminants and potential impacts to soil and groundwater. It is important to dispose of non-recoverable and non-recyclable waste and sludge by proper methods, depending on the waste hazard classification (IFC, 2007).

2.6.3 Waste disposal cost

All tanneries (100%) and most leather products industries (82.9%) incur waste disposal costs. The fees used for waste disposal are of different forms, as presented diagrammatically in Figure 2.31. The majority of the tanneries (70%) incur the cost to purchase chemicals for wastewater treatment indicating that wastewater is the primary pollutant from tanneries. Therefore, tanneries should try to explore different means of reducing the cost. The methods should reduce the need and intensity of end-of-pipe treatment by implementing wastewater prevention measures reported by IFC (2007). The other cost indicated by many respondents is paying labourers (40%), purchasing PPE (40%) and maintaining treatment system (40%). For leather products industries, the costs incurred include paying the municipal collectors (28%), purchasing equipment for the collection of waste (17.1%) and chemicals for waste treatment (2.9%).

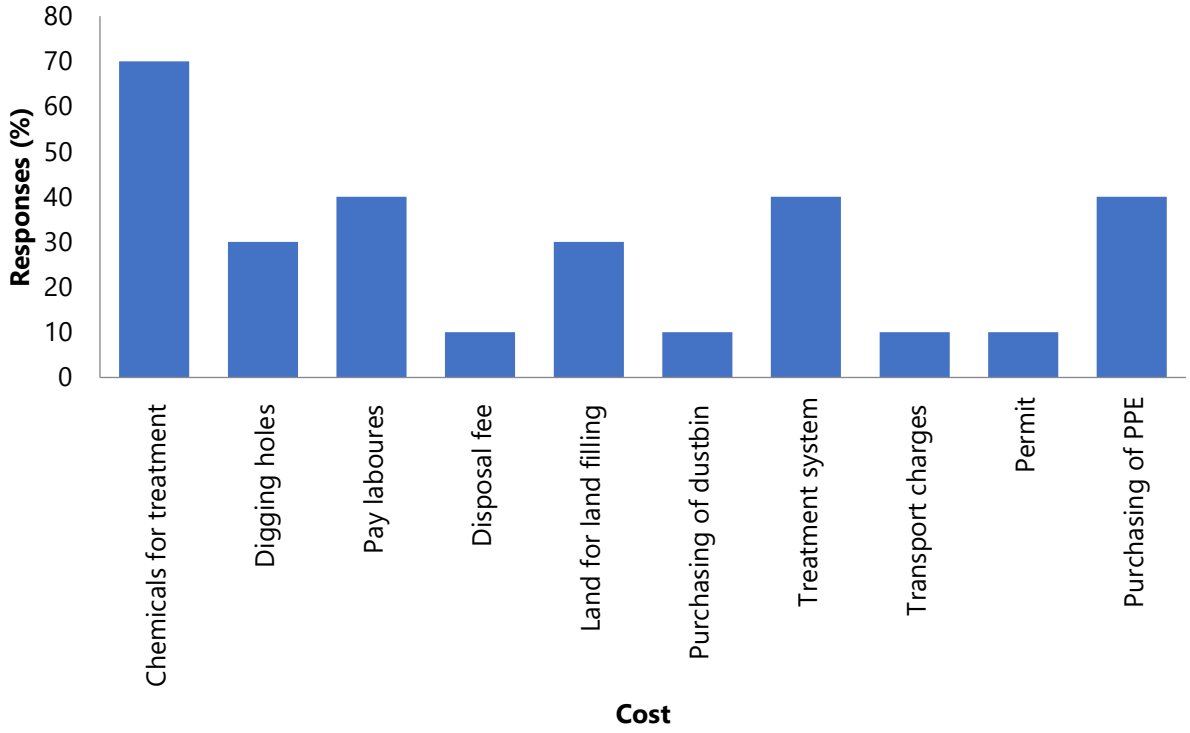

Figure 2.31: Cost used for wastes disposal

2.6.4 Waste disposal Challenges

Waste disposal is among the key challenges facing the leather sector worldwide. The study assessed waste disposal challenges in Tanzania leather sector, and the results revealed many challenges. The challenges faced by leather products manufacturers include delayed collection of wastes by municipal collectors (25.7%), an inadequate place to store waste (5.7%), and high disposal fee (5.7). For tanneries, the challenges mentioned include lack of instrument to measure levels of chemicals in waste (10%), solid wastes drying difficulties during rain seasons (10%), lack of designated disposal areas and space (30%). Other challenges are offensive smell (30%), difficulties in wastes transportation (10%), high cost of water treatment (10%), hardships in controlling air pollution (10%) and lack of financial capacity to manage the waste (10%).

2.6.5 Recommendations on how to control/manage waste

Respondents were asked to give their views on what can be done to manage the leather industry's waste. Given recommendations are shown in Table 2.8. About 60% of leather processors and 40% of leather products manufacturers recommended education on waste management. Therefore, this study alerts responsible authorities

to raise awareness of leather processors and leather products manufacturers on waste management.

Table 2.8 Recommendation on waste management

Recommendation from tanneries for pollution control	**Responses (%)**	**Recommendation from leather products industries for pollution control**	**Responses (%)**
The chemist should assist in neutralizing the waste	10	Emphasize on reliable waste collectors	8.6
Introduction of new appropriate technology	10	Modern, clean technology	11.4
Environmental Conservation education	60	Environmental Conservation education	40
Follow the environmental protection procedures that NEMC provides	10	Reuse and recycling	5.7
Reuse and recycling	10	Frequent inspection on the environmental sector	2.8
NEMC should do its job properly	20	Penalty fees for those who pollute environments	5.7
Wastewater equipment and chemicals should be provided	20	Following procedures for environmental conservation that are guided by NEMC standards	2.8
To have adequate infrastructures for effluents	10	Local Government Authorities should set aside designated areas for waste disposal	11.4
people's follow environmental advice	10	Burning of waste	2.8
Financial support to be provided	10		
Shaving and trimmings waste should be used to make other products	10		

Use environmentally friendly technology	10		
Improving laws to emphasis the process	10		

2.6.6 Awareness about Health effect of the pollutants from leather industries wastes

Most of the respondents (100% leather processors and 51.4% leather products manufacturers) were aware of health effects caused by the entire hides/skins processing activity. They could mention at least one health effects, as presented in Figure 2.32. The respiratory problem was mentioned by 100% of leather products manufacturers and 70% of leather processors, followed by cancer (50%) mentioned by leather processors. These results indicate that most of the leather processors and leather products manufacturers are aware of waste's health effects as most of the mentioned diseases are also reported in other studies (Garai 2014; Rajendran 2010).

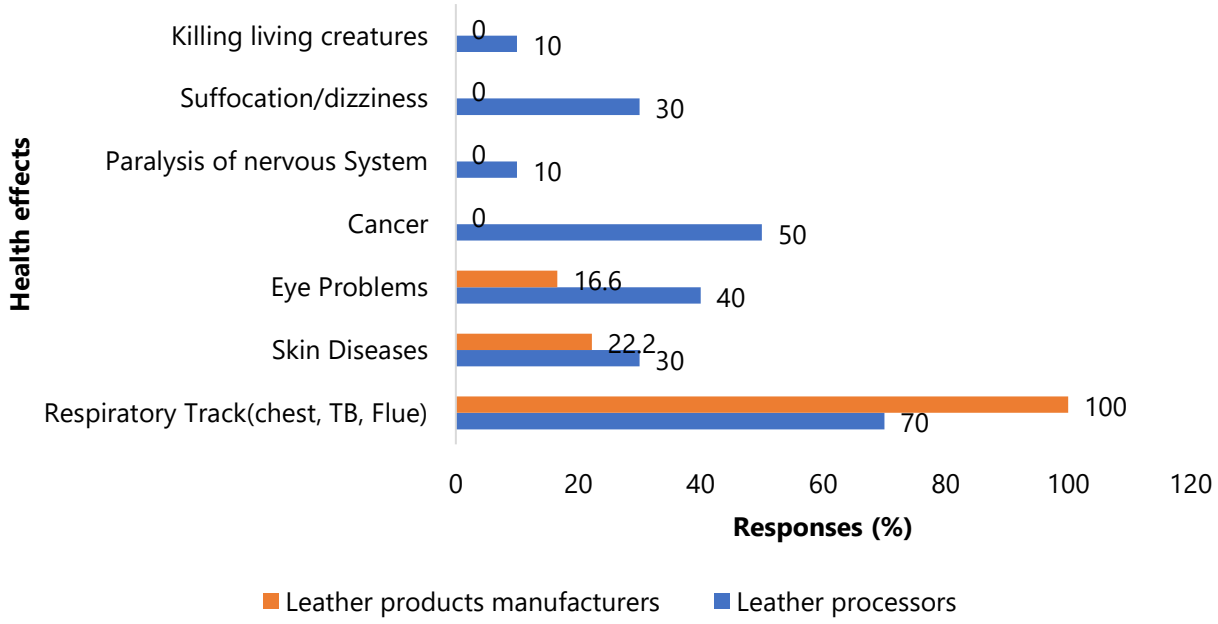

Figure 2.32: Health effects caused by hides/skins processing activity

2.6.7 Suggestions to reduce health effects

When asked to give their views on what can be done to reduce the health effects raised during processing hides and skins, leather processors and leather products manufacturers presented various suggestions as shown in Figure 2.33 and Figure 2.34. The leading suggestions given by many leather processors were education (40%) and easy access to protection equipment (30%). Likewise, for leather processing

manufacturers, the essential suggestions were personal protection gears (44.4%) followed by education (27.8%). These results show an urgent need to organise and conduct training for leather industries (both tanneries and leather products industries) on chemical handling, waste management, and all other issues relating to occupational health and safety.

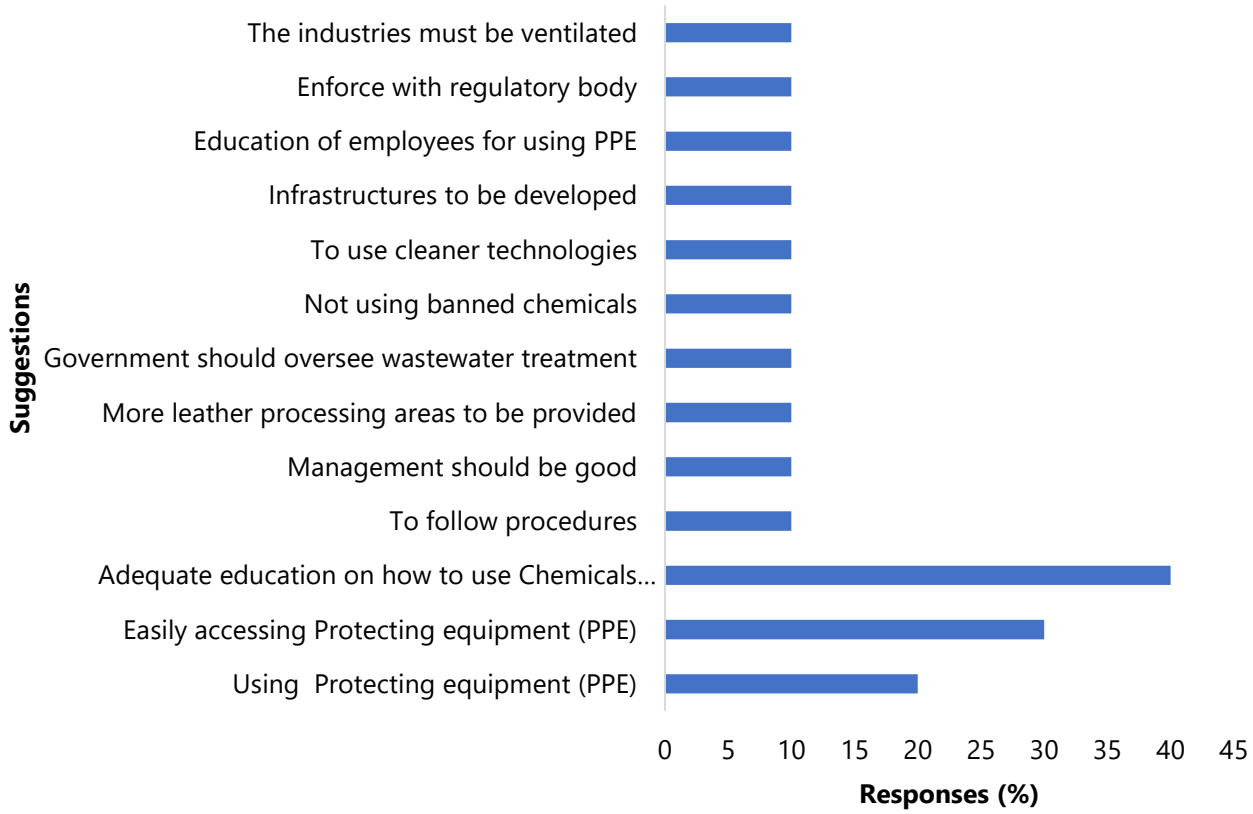

Figure 2.33: Suggestion to reduce health effects given by leather processors

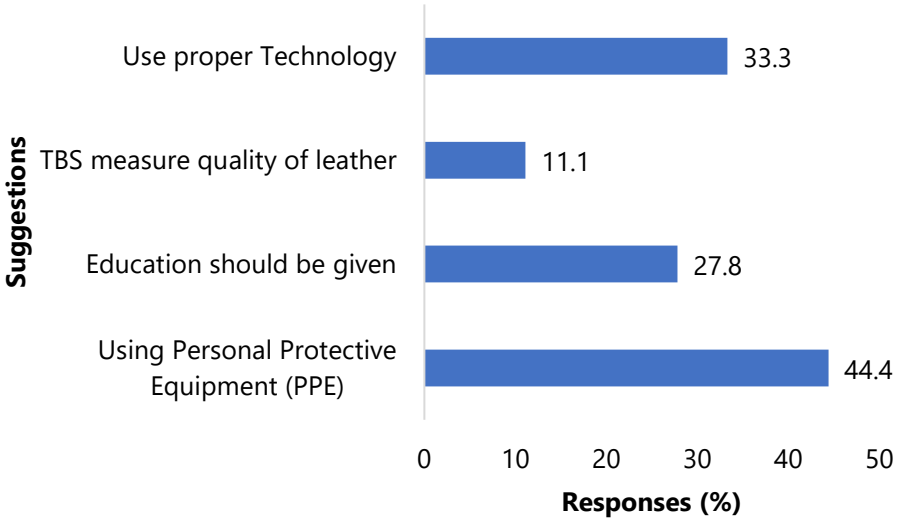

Figure 2.34: Suggestion to reduce health effects given by leather products manufacturers.

2.7 Awareness of Acts and Policies in Leather sector

Laws and regulations are potent tools for effective management of any undertaking (Luthy and Forcht, 2006). On the other hand, policy guides the operations that lead to realising the agreed goals among stakeholders (Van der Ploeg et al., 2000). The Government formulated several policies, laws, and regulations to promote the leather sector's growth (URT, 2015). For effective compliance and implementation, these laws, regulations, and policies must be understood by the key player. Awareness about the laws, regulations and policies among tanners and leather goods manufacturers is the key to their effective implementations for change. This section provides an overview of the tanners and leather goods manufacturers' awareness on the laws, policies and regulations governing the leather sector of Tanzania.

The findings revealed that the level of understanding about policies, laws and regulations governing the sector is higher to tanners than leather goods makers. More than half of tanners (60%) are aware, while only 14% of leather goods makers know something about the laws and regulations (Figure 2.35). This implies that it is more likely for leather goods manufacturers to infringe the laws and regulations than tanners. Even those few who are aware, their awareness is on three Acts namely hides, skins and leather Trade Act No. 18 of 2008 (80%), Animal Health Act No. 10 of 2006 (60%) and Livestock Identification, registration and traceability Act No.12 of 2010 (20%) (Figure 2.36). None of the respondents are aware of the current policy governing the leather sector, The Sector development Strategy 2016/2020, indicating that education about laws, policies and regulation is an urgent need in the leather sector.

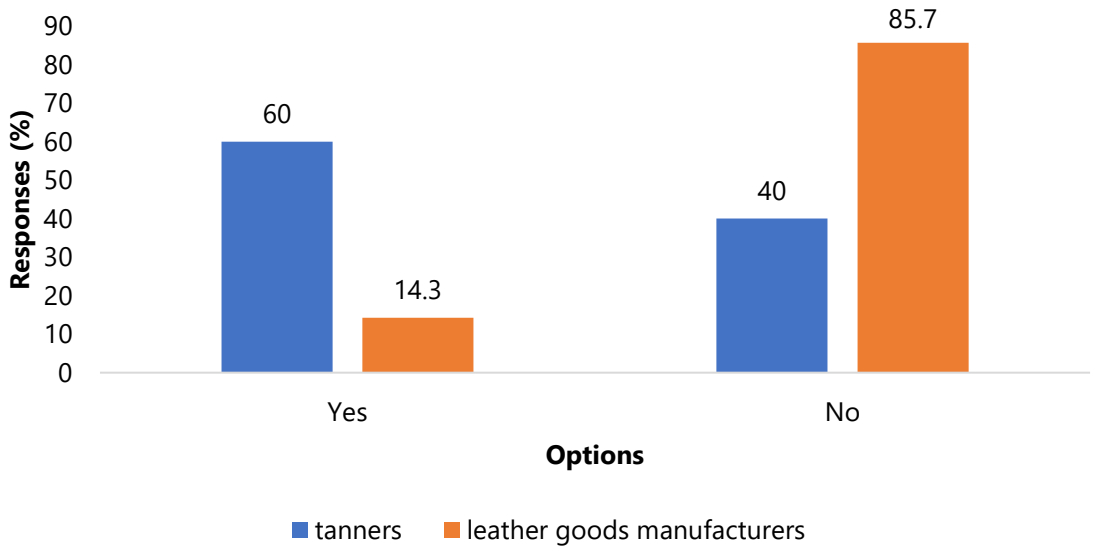

Figure 2.35: Awareness about policy, laws and regulations governing leather sector in Tanzania

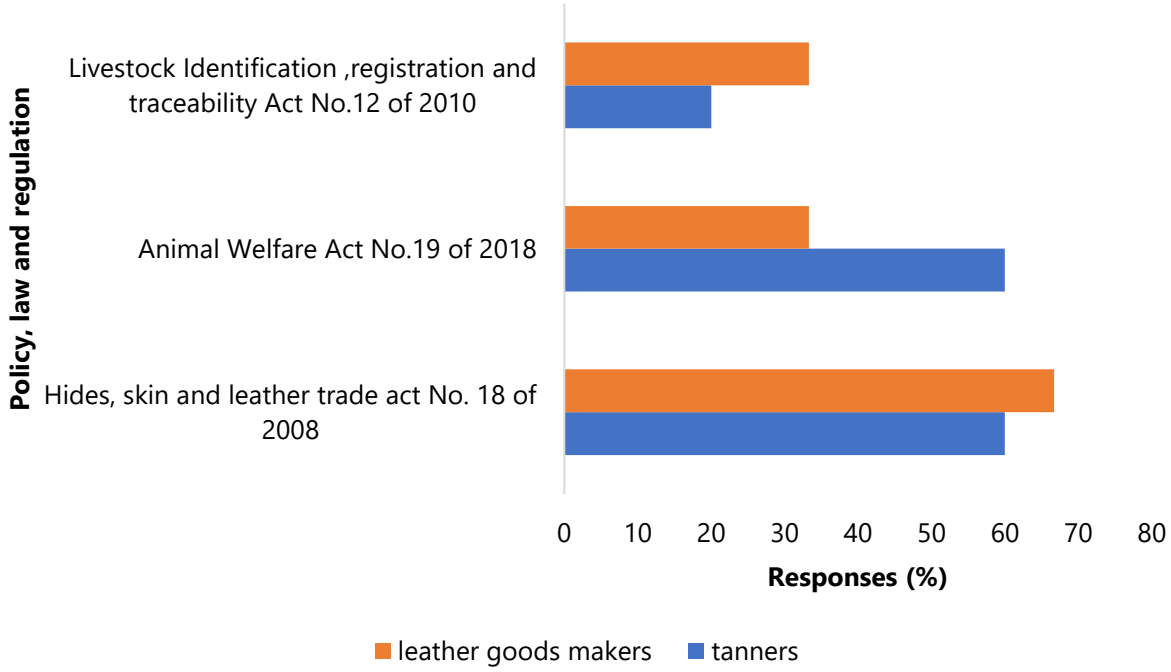

Figure 2.36: policies, laws and regulations familiar to the leather and leather goods manufacturers

When asked about the amendment of laws, regulations, and Acts, most of the tanners (70%) agreed that the amendment is inevitable. In comparison, most leather goods makers (77%) are not sure (Figure 2.37), as most of them are unaware of the laws, policies, and regulations; hence, it is not easy to say anything about amendments. Those agreed for amendment have proposed the following to be amended; improvement of the environment for exportation of semi-finished leather (50%),

removal/reduction of prohibitions in using leather from wild animals (20%), decrease in taxes (25%), easing the procedures for obtaining permits and licenses (18%), the establishment of the leather board (18%) (Figure 2.38).

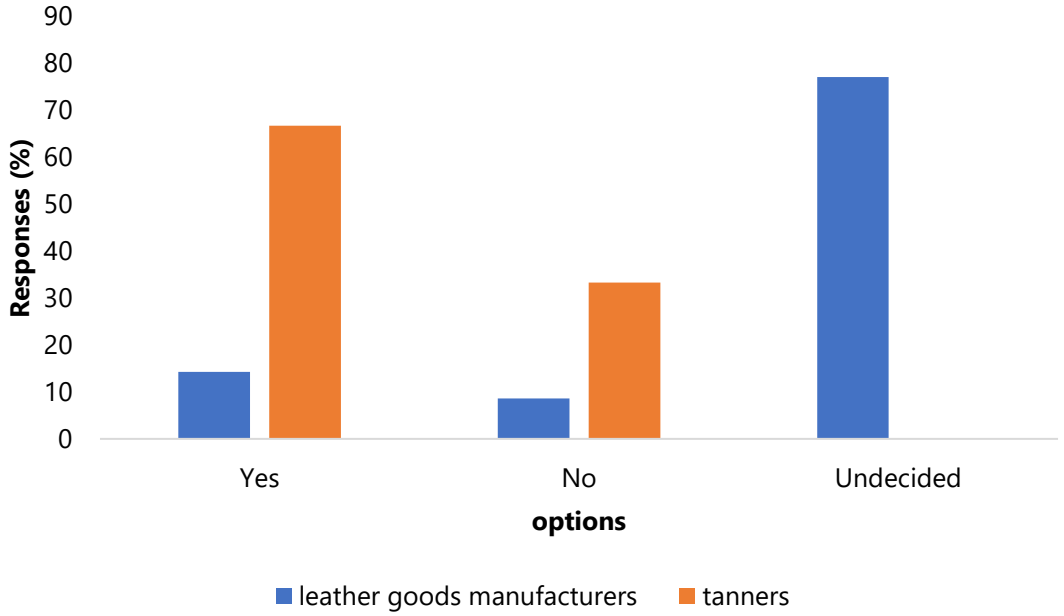

Figure 2.37: Opinions on the need to amend the laws, regulations and policies governing the leather sector in Tanzania

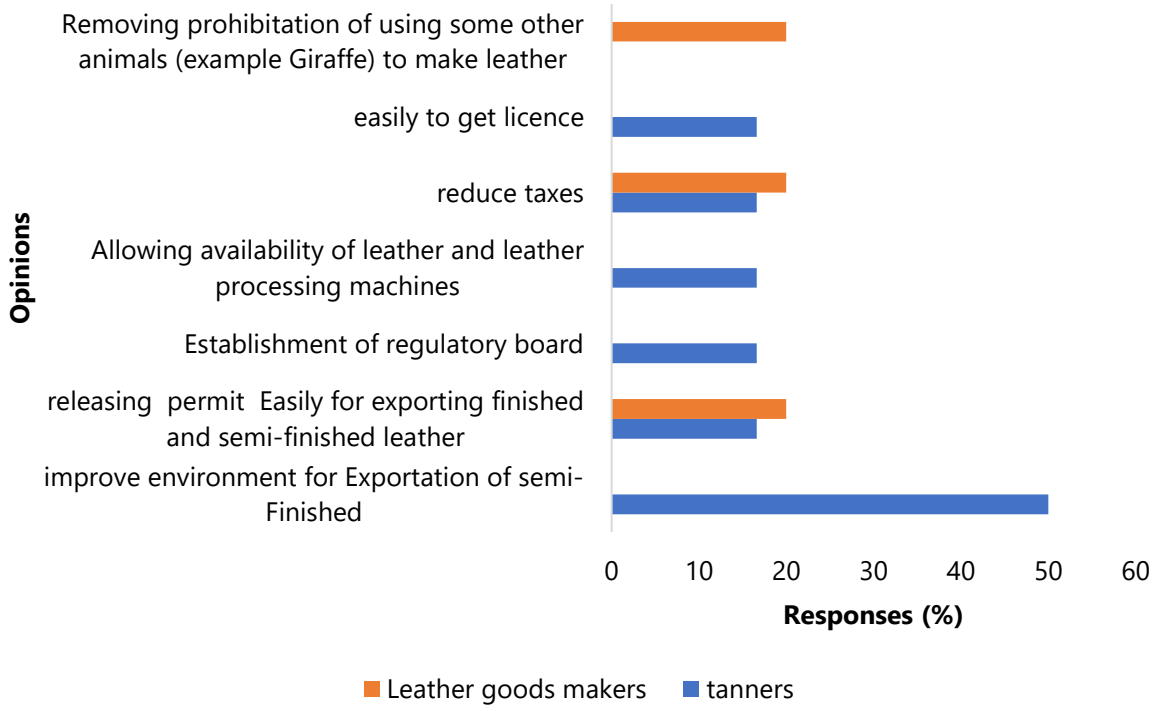

Figure 2.38: Proposed issues to be amended

3. Stakeholder Discussion on Quality Management in Leather Sector

Main findings from data generated from the focus group discussion are summarized below. The consultation brought about valuable information in terms of the current status of hides and skins value chain challenges facing the industry and the future of the leather sector in Tanzania. The findings and discussion can be categorized into Nine (9) themes, explained below:

3.1 Local Manufactured Leather products Vs. Imported products (Plastics and Second hand)

Discussions focused on arguing the reasons as to why we are still importing leather products, plastic and second-hand products *(mitumba)* from outside though we are second in Africa for livestock population. The main reason agreed by the most discussants were low government effort to lift the sector. The government has not intervened/put more effort to solve this challenge as in other sectors like Cotton and Cashew or ban of plastic bags usage. The intention has not reached to the level of effecting ultimate changes in the leather sector. This point was in contrast with the explanation from one of the stakeholders who said the problem is the actors and not the government. Those mandated to manage the leather sector like TIRDO, Ministry of Industry and Trade, DIT, and others have a significant role in developing the leather sector and are not doing their part. There is no commitment to the work for the actors.

Another vital point highly discussed was an education to the consumers of the products. Education for Tanzanians, which are the consumers of leather products, is limited to foreign products. They like foreign products more than domestic products. Tanzanians see the plastic products as cheap compared to leather product manufactured in Tanzania. But the total cost of ownership is high when using the plastic product because in one year one can buy three or four times compared to a leather product that can be purchased once per year.

Availability of a few large establishments to produce leather products was also a point. There are only single individuals in the business who are barely recognized. They produce on 'order to service' bases and are not recognized by many. They are scattered, and the majority are in the informal sector. Therefore, internal production does not meet the demand of the internal market. There is a high need for leather products that led investors to see their products' market opportunity (plastics and second hand) in Tanzania.

3.2 Leather Industries Investment status

This theme focused on why we have few leather industries operating in Tanzania despite being in an industrialized economy. The common reason discussed among stakeholders was the low quality of raw materials (hides and skins). Tanzania has a reputation of having much livestock, but the hides and skins are of low quality. In slaughterhouses, they use knives to remove the skin improperly, which results in several flay cuts on the hides and skins. Most of the pastoralists are focusing on selling meat and leather was regarded as a by-product, hence no motivation to take care of it. The investors are coming and get experience from existing investors on low-quality hides and skins in Tanzania. There are insufficient high-quality raw materials to feed tanneries, and one needs to sort a lot to get quality hides and skins. About 60% are damaged at the slaughterhouses, 15-20% from poor animal husbandry caused by putting brandmarks on the skin's valuable parts.

Another challenge discussed are outdated technologies and lack of skilled personnel. Tanneries have old technologies and an inadequate number of qualified personnel like Leather technologists. Many of them now are old/retired people, not even able to work in the tanneries.

Stakeholders also discussed the poor Business/Investment environment as the reason for having few tanneries. According to the stakeholders' views, poor business/investment environment is contributed by factors such as Lack of market for the leather products as most Tanzanians prefer imported plastic and second-hand products. Difficult in obtaining licenses, lack of incentives and Higher costs of production were also pointed out. Suppose someone wants to invest in Tanzania, for instance, to produce leather sandals in Tanzania, he/she will meet with plastic sandals from China spread all over the market. In that case, the business becomes non-profitable due to unfair competition in the market. Investors are putting money and expecting returns from it. Majority of local people are not ready to buy locally manufactured sandals. At TBS laboratory, most of the product that are tested are PVC (plastics), very few are leather type. There is no favourable environment for investment in the leather industry. Higher production costs cause privatized leather industries to stop processing and start exporting raw hides and skins or semi-finished leather because at least it generates more income.

3.3 Availability and Quality of Raw leather (Hides and Skins)

The previous theme covered most of this part. A discussion on this theme focused mainly on what should be done to address those problems. Different ways of addressing poor quality of hides and skins stated in the discussion focused on improving livestock slaughtering process. One of the methods proposed was to have

a permanent job description and role for those responsible for slaughtering flaying hides and skin from the animal body because a high percentage of quality loss occurs during slaughtering and flaying. Therefore, if there is a permanent job position for those workers, it will reduce the challenge. Currently, those workers in slaughterhouses responsible for flaying are casual/temporary workers. Casual workers tend to jump from one work to another. It is a wastage to spend resources to train them compared to permanent workers.

Another point suggested in a discussion is an alternative for a permanent employed slaughtermen/flayer. Such an option is the installation of flaying machines in the abattoirs. The government should focus on modern slaughterhouses (abattoirs), which use modern devices to remove livestock skin. These should be in each region and possibly each district in Tanzania. Use of modern machines is more efficient than using the manpower and ensure quality hides and skins.

The stakeholders also suggested a need for the focal person to ensure slaughtering and removing hides and skins. Currently, flaying is done without inspection. A designated worker to administer other workers that remove skins will ensure quality check of hides and skins. In addition to that, it is essential to have a bonus on selling hides and skins to address this. A difference in price tag for the hides and skins flayed properly and that flayed in a traditional way using knives is paramount. Moreover, those flaying correctly have to be allowed to manage and train others and be given motivation.

3.4 Market status of the processed leather and leather products

The previous theme also highlighted the leather and leather products' market status in Tanzania. The focus point on this theme was more on penetrating the external market and meeting international standards. All the stakeholders agreed that Tanzania leather products could not compete at the international level, and the reasons are explained below.

The common point discussed was the difference in the quality of products in terms of finishing and branding. Products from other countries that are more advanced in this sector are well branded. In Tanzania, things are done in the old fashion, and we are not thinking big. Technology gap, labour inefficiency and lack of skills were also the reason for our competitiveness at the international level. Other countries' technologies are more advanced, and they are using labour efficiency process. For example, Italy started to invest in the labour sector in the 1800s.

Another matter that was raised as our products are not competing at the international level is the poor investment environment characterized by high operating costs caused

by huge taxes and license fees from many regulators within. Though the government has seen that and started a programme to harmonize regulators performing the same function, organisations still started Acts and laws to collect fees.

Stakeholders proposed training to be given to leather products manufacturers. The training should focus on designing and branding their products, and procedures to produce leather products at international standards. They also suggested to try and learn from others by adopting their technologies. That can succeed by sending the right people with passion in the leather sector to other countries, especially those involved directly in production. The government should remain to be an enabler of the positive business environment and minimize regulators taxes.

3.5 Awareness and Application of Acts and Policies in Leather sector

The discussion in this theme covered available Acts and Laws at the Ministry and organization level that regulate the leather sector, their application, and weaknesses in applying them.

Positive feedback was explained on content and coverage of Hides, Skin and Leather Trade Act no. 18 of 2008. If we could have managed to implement what has been written in this Act by 30%, we could remove quality issues in the leather sector by 50%. These laws were not enforced as it was supposed to be due to business interests. Leather sector is one of the most profitable businesses in the world. Investment and implementation of regulations were more of making the profit without the guidance of the Law.

The identified gap with the Hides, Skin and Leather Trade Act no. 18 of 2008 is on lack of power to the organisation responsible for supervising and regulating the leather sector. The Ministry of Livestock and Fisheries elected an advisory committee responsible for supervising and controlling the leather sector, but it had no power to enforce the law.

The stakeholders discussed other Laws at organization level that have an impact in the leather sector. At NEMC, though there is no direct Law for the leather sector, there is an Environmental Management Act of 2003 and other laws and regulations to control environmental impacts because the leather industry is one of most polluting industries. The regulators (NEMC) face several challenges in enacting and enforcing the Act and Laws that affect investment in many sectors. For instance, Investors are allowed to invest, and then registration is done later. Consequently, the industries/investments are established in human settlements.

Furthermore, stakeholders were more concerned with the application of TBS standards. The standards are higher compared to other countries such as India and South Africa.

This appeared to negatively affect local investment and production because you cannot be registered with external standards. There is a gap between importing product from outside and producing the same product inside. The importer will have an option to use any standard (TBS or other countries) to comply, but local producers have to comply with TBS standards only, which are higher than other standards in other countries.

3.6 Trained staff and Facilities in the leather value chain

All stakeholders agreed that there are inadequate facilities, equipment and required skills and labour force in the leather sector, particularly leather technologists, as explained in previous themes. Leather technologists are needed most in the tanneries, and most of them are old. This situation is also the same for manufacturers of leather products, where designers and fashionists are highly required. They also pointed out that there is a gap in the education system. It is not producing professionals who are competent in the leather sector.

On equipment and facilities, taking an example of TBS, the standards are in place but no equipment for measuring leather quality in terms of chemical properties. As technology and processes continue to advance, the government must invest in the leather sector's skills development to support the industry. It should set aside funds to improve facilities and equipment at universities, leather centres, and other organisations supporting the leather sector and not depending on external grants and loans.

3.7 Usage of chemicals in leather industries

The discussion focused on ensuring the chemicals used in leather processing have little impact on human health and the environment.

One of the stakeholders pointed out that the importation of the chemicals is well controlled, but chemicals' usage always harms health and the environment if used correctly. Overall, the stakeholders recommended more research on green processes using a small amount and safe chemicals during processing. Also, they emphasized that the responsible organization (GLCA) should test the imported chemicals to see if they meet the required standards. They should perform regular monitoring and data collection to know the status of chemical usage concerning health and environmental impact.

Awareness about restricted chemicals among stakeholders themselves is also limited. Few are aware of the toxic substance's possible presence in leather processing chemicals that may affect human health and the environment. Therefore, the training

on restricted chemicals in the leather sector and their effect is supposed to be extended to different groups of leather stakeholders in Tanzania.

3.8 Environmental Management in Leather sector

Environmental management in leather industries, challenges occur in managing environment, and measures taken to minimize environmental pollution were discussed in this part.

Because of the technologies and processes that tanneries are using, environmental pollution is still a challenge. Chrome, sludge, and other wastes are produced in large quantity. Tanneries in Tanzania use different environmental management systems such as effluent systems to minimize impact, but there is still a challenge, especially on the smell. Bad smell is an annoyance to those nearby the tanneries. Stakeholders suggested there should be designated areas for Tanneries that will be on municipal plan. Those areas should be located a far distance from human settlements.

4 Key Constraints and Opportunities identified in Leather Sector

4.1 Constraints

4.1.1 Poor quality raw material supply as a result of antemortem and post-mortem handling of hides and skins

Of all the specified constraints hindering the leather sector's development, the raw materials' poor-quality leads. Quality raw materials have implications on production costs and sales prices, determining producer' competitiveness in the market. Inferior quality materials are expensive to process and result in a high percentage of low-grade products, including rejects. This can lead to severe losses in earnings.

The causes of poor quality and hides are natural defects (scratches, disease, ectoparasitic defect) and human-made defects (brand marks, ripping and flaying problems, preservation, transportation, storage, and bad handling). Care for hides and skins in Tanzania is generally low because the primary focus is to obtain meat instead of producing high-quality hides and skins.

Due to poor quality hides and skins, local tanneries suffer the shortage of hides and skins for processing. Most of the available stock is of grade IV and rejects. As such, the existing capacity of tanneries is underutilized, and most of the tanneries are closed because they were making losses. Sometimes, local tanners have to buy these low-grade hides and skins because they have no profitable options. Consequently, the finished leather produced are full of defects and not suitable for making some products such as upholstery. Hence, the country relies on importing synthetic materials for making upholstery such as sofas and car seat covers.

4.1.1 Poor livestock husbandry practices

Livestock husbandry practised in Tanzania contributes significantly to weakening the leather sector. About 80% of livestock kept is of the indigenous breed, producing small and thin hides and skins. Such hides and skins hardly compete in the competitive global leather market due to being small and thin; hence cannot attract the buyers.

Hot branding for identification is typical among the pastoral community in Northern Tanzania, populated with livestock. More than 90% of hides and skins produced have brandmark hence face strong rejection in both local and export market. Shortage of ranches and extensive grazing animals on pastures and animal diseases have led to hides and skins with defects facing rejection in the market.

4.1.2 Unfair competition from imported second-hand and plastic products as well as locally produced plastic shoes

There is massive importation of plastic shoes, synthetic leathers and second-hand shoes and bags that compete unfairly with locally produced leather and leather goods. These imported items are far cheaper than leather and leather products locally manufactured because plastic shoe production technology is advanced, enabling massive output at low cost and low labour requirement. In contrast, the local industries' technology involves high production costs and is labour-intensive. Apart from that, for the plastic products made from imported synthetic leather, the synthetic materials have taxi exemptions, hence are priced way below the production costs of local leather and leather goods producers. As a result, the warehouses in the tanneries are full of finished leather. Some big leather products producers have shifted to synthetic leather to produce cheap plastic shoes to compete with imported plastic shoes and second-hand shoes.

4.1.3 The weak enforcement and limited awareness about laws, policies and regulations governing the leather sector

Policies, law, and regulations are put in place to manage, regulate and harmonize the leather sector's operations. Weak enforcement of laws, rules and policy has discouraged investment in value-added products such as footwear & leather products. Due to this, there is continual export of raw materials such as hides & skins and wet blue, refraining the country to benefit from exporting value-added products.

Besides, awareness about the laws, policies and regulations governing the leather sector among key actors is low. Awareness about policy is almost not there. There is Industrialization Policy, Hides and Skins Development Policy etc., but not known to the key actors. Limited understanding of these policies, laws and regulations among key actors has influenced the sector's stagnation due to poor enforcement and implementation.

4.1.4 Technology obsolete

In today's 4.0 industry, manufacturing technology is changing so fast. Adopting the emerging technology is the key to success in the global market. Leather industry of Tanzania is lagging in technology advancement as the technology in operation is of the 1990s. Low production, high repair and maintenance cost, many hands-on works are the results of using old technologies. This sluggish movement in adopting new technologies has affected the capacity to benefit from the global leather and leather goods market as Ethiopia and Kenya.

4.1.5 Limited access to processing inputs and accessories

Most equipment, accessories, and chemicals are imported; hence, they are sold at a high cost. Consequently, the production cost is high, and it is reflected in the inability

to compete with substitute products that are sold cheaply. Apart from that, high costs of electricity, limited access to finance and high cost of production linked to licensing procedures, logistics costs and informal costs are some of the challenging issues that discourage investment in the leather industry in Tanzania.

4.1.6 Waste management challenges and limited awareness about restricted chemicals

Most industries are not properly managing the waste due to lack of education on proper waste management and lack of designated areas for dangerous waste like chrome having and sludge. Burning, burring, and dumping in the municipal dump are the common practices in many tanneries and leather products industries, but these are among the hazardous means of waste disposals. Limited awareness of restricted chemicals is also high, especially for leather products industries. This increases the risk of environmental pollution and health problems to workers and surrounding population.

4.1.7 Weak institutional arrangement to enforce quality and standards in the value chain

Although standards for quality control of leather, leather products and subsequent wastes are in place, the use of those standards to enhance quality is negligible. The capacity of laboratories to conduct tests for ensuring quality of leather and leather products is very low. Only TBS has equipment for testing leather and leather products physical properties. Access and empowerment to manufacturers to use such facilities is very minimal. There is no fully equipped laboratory in the country capable of testing all chemical parameters such as restricted substances to ensure customer' health safety. Such situation has for many years diminished the leather industry to give assurance of the quality of their products especially in the export market, hence losing market opportunities.

4.1.8 Weak institutionalization management of the leather sector

Private and public entities manage the Tanzanian leather sector. While private institutional arrangements are meant to drive the sector's growth, the public sector is expected to promote and support the private sector's effort in the industry. However, expected collaboration between private and public institutions in Tanzania's leather sector is not yet realized. Leather Association of Tanzania (LAT), only formalized association for overseeing Tanzania leather sector, operates at a low level of efficiency because it is under strict financial constraints. Since 2014, LAT hardly received any financial support to carry out its duties, which has worsened the performance of the leather sector, particularly the implementation of Leather Sector Development Strategy 2016/2020.

4.1.9 Lack of skilled personnel and platform for knowledge generation

There is a shortage of experienced and trained technical staff, i.e. leather technologists, Engineers, scientists, and technicians, which can supervise the leather industries' overall production process. Key players seem to be reluctant in adopting emerging technologies mainly due to lack of knowledgeable key personnel trained on those technologies. Currently, only DIT produce diploma level leather technologists who will be technicians. There is still a skill gap in Tanzania as leather technologists and engineers at different education levels are required.

4.1.10 Lack of downstream industries such as accessories factories to support leather industries

Leather processing and leather products production require varieties of inputs, including chemicals and accessories. But unfortunately, most of the raw materials are imported from outside as there are no these industries in Tanzania. Imports of inputs/raw materials impose some challenges, including delays and substandard materials. Also depending on imported raw materials can affect the industrial operations when the global crisis such as COVID-19 happens. There is no factory to produce accessories such as eyelets, shoelaces, buckle, shank etc. All these are imported from Kenya and China, thereby increasing production costs and inability to compete fairly in the market with plastic and second-hand products.

4.1.11 Gender imbalance in Technical and Managerial positions

Technical and managerial positions in both tanneries and leather products industries are dominated by males with women holding unskilled positions only. This underutilizes the capacities and capabilities of women in the development of Tanzania leather sector.

4.1.12 Limited access to finance

High investment is needed for the leather industry to progress and compete at the local and international market. There is weak formal system of connecting leather sector SMEs to financial services; hence, hinderance of their capacity to advance to the next level. Currently, SIDO is playing the role of financing SMEs and connecting them to sources of financial institutions. But the connections to the microfinance and banks for business loans is still weak.

4.1.13 Inadequate means of Information sharing

A clear flow of information between leather players is vital because they depend on each other. For the chain to operate well, it is essential to have clear communication from one payer to another. There is no clear flow of information among leather sector stakeholders in Tanzania. Communication gaps exist between tanners and products producers. Hence, tanners are not clear of what kind of leather is needed by leather

products producers, and leather products producers are not aware of what types of leather are produced by tanners.

4.1.14 Limited public awareness of the difference between products made from leather goods and synthetic leather

Owing to the inability to distinguish genuine leather from synthetic leather, Tanzanian are victims of being fooled with low standard products made from synthetic leather. As result, with their influence of low purchasing power, they prefer non-leather stuff than pure leather goods. They are also not aware of the benefits of consuming locally made leather products in the national economy's growth.

4.2 Opportunities/Potentials

4.2.1 A high population of livestock base and large pastoral areas

Producing good quality hides and skins is a great opportunity for the livestock sector due to the existing and growing demand for the hides and skins both local and international wise. Owing to large livestock base and pastoral areas, Tanzania stands a great chance to produce high-quality hides and skins, leather products for the local and export market to benefit its economy.

4.2.2 Ready market

The demand for Leather products in regional and international markets is increasing with population growth and income. Being uniquely positioned with eight bordering countries (Rwanda, Burundi, DRC, Kenya, Uganda, Malawi, Zambia, Mozambique), Tanzania has total regional market size of about 150 million people. There is also a huge potential to sell the products locally to the tourists frequently visit the country as Tanzania is an important tourist destination.

Local footwear market is also enormous. For instance, Tanzanian demand for shoes is at about 60 million pairs per year, while currently, only 1.7 million pairs are supplied annually. In the EAC alone, the United Republic of Tanzania exports around USD 3.7 million worth of leather goods, while its neighbours' demand is as high as USD 63 million, implying a huge potential market for investors and traders for hides and skins, leather, and finished leather products.

Tanzania’s contribution to the global hides, skin and wet blue market is as low as a fraction of 1% of the global demand. It has remained to a low volume producer of these commodities. If the quality and quantity are improved, there is a room for Tanzania to expand its international market for hides and skins and wet blue.

4.2.3 Local processing and value addition in community-based tanneries

Numerous opportunities exist for the processing hides and skins into leather, which can then make various leather goods. Women groups can do this after proper training.

While it offers higher returns in the entire chain, international markets need to be explored.

4.2.4 Government commitment to support the development of the leather sector

The government of Tanzania has expressed a great interest in the leather sector. It has established the Kilimanjaro International Leather Industry Ltd. and intends to remove import duties to some of the leather chemicals and materials inputs for leather industries. Other initiatives include assigning DIT as the centre of excellence for leather technology skills development, raising of import tax for plastic and second-hand shoes from 25% to 35% to protect local manufacturers. The sectors' development plans are also featured in the ruling Party Electoral Manifesto.

4.2.5 Readily available workforce

Around 800,000 to 1,000,000 youth are entering the job market every year in Tanzania, and about 11% are unemployed. Investing in the leather value chain would enjoy the workforce available while making a profitable investment by saving from high wages if the workforce had been scarce.

5. Conclusions and Policy Recommendations

5.1 Conclusions

Tanzania, being among livestock rich countries in Africa, the leather sector occupies a place of prominence in its economy given its massive potential for employment, growth, and exports. However, Tanzania hasn't realized this comparative advantage, and the full potential of hides and skins value chain is not apprehended for several reasons.

The present study evaluated hides and skins value chain in Tanzania to improve the performance and in turn, income from the sector. Significant constraints that hinder the sector performance were identified for the key players, policy makers and other stakeholders to prioritize their appropriate solution that can bring the changes.

Despite existence of the constraints, the opportunities are quite attractive. Therefore, Tanzania's leather sector stakeholders need to take advantage of these opportunities to revitalize the leather sector for effective and efficient performance in the local and export market.

5.2 Policy Recommendations

Based on the findings discussed, this study makes the following policy recommendations to catalyse the upgrading of the skin and hides value chain in Tanzania:

a) The government needs to develop immediate and sustainable plans to improve the quality of hides and skins.
b) The government must control the importation of second-hand goods and plastic goods, as well as local manufacturing of plastic shoes in Tanzania to protect the market for leather goods. Imposition and enforcement of the laws and regulations to reduce unfair competition is crucial.
c) Understanding on the laws, regulations and policies, chemical use, restricted chemicals and waste management issues among key players and sector regulators is important.
d) Existing policy and strategy for the development of the leather sector of Tanzania should be reviewed and implemented accordingly.

e) To make maximum use of low-quality hides and skins in the short and medium-term, the use of technologies that converts the poor-quality materials to good quality leather products can help value addition to grow. For instance, the use of rejected leather for as raw materials for Gelatin, leather boards, glue, animal feeds etc is to be emphasized.

f) Institutionalizing the management of the leather sector will provide a sustainable approach to the growth of the sector. LAT should be given a full mandate and support to carry out its duties in Tanzania's leather sector.

g) The standards in place for leather industry need to be revised with reference to the practice in the rest of the country to enable traders to compete fairly in the global market.

h) Conducting a feasibility study to assess the possible establishment of leather chemicals industries and accessories industries is recommended. Investment on chemical industries that utilize locally available raw materials to produce chemicals such as fat liquors, common salts, bating agents, wetting agents, sodium bisulphite, and chromium salts would remarkably reduce operation costs. Accordingly, investment in local manufacturing accessories such as soles, eyelets, toe puff insoles etc. is equally important.

i) Investing in cleaner technologies such as water recycling systems and chemical minimization in the process need to be considered too. Also, the country should employ modern ways of managing wastes such as solid waste recycling to produce Leather Board, Gelatin, animal feed etc.

j) Increasing the capacity of VETA, DIT and SUA to produce skilled personnel is a need of the hour. Various levels of education from certificate to postgraduate in leather and leather products manufacturing technologies are inevitable to generate skilled graduates to work on the leather sector of Tanzania. Additionally, there is an urgent need to send experts to be trained outside the country.

k) On developing the skills of the workforce, gender balance should be considered. More women need to be enrolled in the education programs to bridge the skill gap existing between men and women in the leather sector of Tanzania.

l) The technologies should be modernized to reflect modern technologies in the market. This can be achieved by capacitating industries financially through connecting them to the sources of capital to afford modern technologies.

m) The government should establish a national laboratory for testing physical and chemical parameters of leather and leather properties. Right equipment and facilities must be put in place together with well-trained personnel to run the laboratory.

n) Give power to the advisory committee elected by the Ministry of Livestock and Fisheries to enforce the leather sector's Laws and regulations.

o) There should be designated areas for Tanneries that will be on municipal land use plans. Areas should be located a far distance from human settlements.

p) Increase public awareness on leather products produced in Tanzania and the importance of Tanzanian to consume them for contributing to national economy should be emphasized. This can be done using short promotional videos in traditional and electronic mainstream media.

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Appendices

Appendix 1: Questionnaire for Leather Processing Industries (Tanneries) in Tanzania (Questionnaire A)

QUESTIONNAIRE FOR THE OWNER OF THE HIDES/SKINS PROCESSING FACTORY (TANNERY)

Dear Sir/Madam,

REPOA in collaboration with the Tanzania Industrial Research and Development Organization (TIRDO) are conducting research aimed at building the capacity of the Tanzanian leather industry to produce quality leather that will meet the local and international market standards. To facilitate this exercise, accurate information of the owners of the hides/skin processing factories and how they process and manage production is essential.

Therefore, you are requested to provide accurate information through this questionnaire for the benefit of your factory and the nation as a whole. The information provided will be confidential and will be used for statistical purposes only.

Thank you for your cooperation.

A	

Questionnaire number

SECTION 1: INTRODUCTION

Factory location:

Region/City: District:

…….

……..

Ward/Street:

…….

Ownership (Please write a number of correct answer in the box provided)

1. Public
2. Private
3. Public-Private partnership

If your answer is 3. Please indicate the percentage of a public ownership …… %

Citizenship of the owner/owners

1. Tanzanian
2. Foreigner
3. Tanzanian and foreigner (joint venture)

If your answer is 3. Please specify the percentage owned by a Tanzanian …… %

Could you please indicate how many employees of your factory work in each of the following occupations: (If an employee has more than one occupation, choose the main one, i.e. the one to which most work hours are dedicated.)

Occupation group	Number of Employees							
	Me				Fe			
	Level of Education				Level of Education			
	Primary	Secondary	Diploma	degree	Primary	Secondary	Diploma	degree
Managers/Directors								
Professionals (Engineers, Accountants, Lawyers and etc.)								
Technicians and Associate professionals								
Clerical supports, services and sales workers								
Leather processing workers								
Plants and machines maintenance and operators								
Elementary occupations								

The year when the factory started production .....

Value of production sales for the past year .....

SECTION 2: AVAILABILITY AND QUALITY OF RAW MATERIALS (RAW HIDES/SKINS)

Where do you get raw materials?

1. In the country

2. Outside the country

3. In and outside the country

If the answer is 1 or 3, go to question number 2.2. But if your answer is 2 go to question 2.4

Please specify the region (s) where you are taking the hides/skins

……

……

……

……

What are the reasons for taking raw hides/skins from those regions?

Short distance from my establishment 1

Good quality of hides/skins 2

Enough raw materials (hides/skins) from the stated regions 3

Reasonable cost

Others (Mention)..... 4

……

……

State the reasons for importing raw hides/skins from abroad (Please circle the correct answer(s) in the table)

Reason	Yes	No	Explain
Accessibility(Transport)	1	2	
Quality	1	2	
Availability	1	2	
Cost	1	2	
Closeness	1	2	

Other, (Specify)……. ……. …….	1	2	

Please specify the types of hides/skins you produce.

1. Finished Leather
2. Semi-finished Leather
3. Finished and Semi-finished Leather

   If the answer is 3. Please specify the production by percentage

   Finished Leather ……% Semi-finished Leather ……%

To what extent do raw hides/skins available in the country satisfy the needs of your factory?

1. Highly satisfied
2. Satisfied
3. Highly dissatisfied
4. Dissatisfied
5. I don't know
6. Not applicable

If the answer is 3 or 4, what are the reasons causing the produced hides/skins to be below the required quality (Please circle the correct answer number)

Have holes/fly cuts	1
Give rotting smell	2
Have brand marks	3
Are Small and thin	4
Others, (specify)…….	5

…….

…….

Do you think, the raw hides/skin available in the country are suited to produce leather for which kind of products?

.....

.....

.....

.....

Have your employees been trained on how to determine quality of raw hides/skins?

1. Yes
2. No

If yes, what type of training? (please circle the correct answer)

Formal training offered locally	1
Formal training offered abroad	2
Informal training provided in the factory	3

Please specify what can be done to address the challenges of quality raw hides/skins in the country?

.....

.....

.....

.....

SECTION 3: AVAILABILITY AND USE OF CHEMICALS

What kind of chemicals do you use in hides/skins processing? (Please select the chemicals you use from the list attached to this questionnaire)

How do you access those chemicals?

Details	Yes	No	Reasons
Direct from the manufacturers	1	2	

Through suppliers	1	2	
Others, (Mention).....	1	2	

Do you know about the toxic ingredients/restricted substances found in the chemicals used for processing hides/skins?

1. Yes
2. No

If the answer is 2, please go to question 3.10

If yes, please name the toxic ingredients you know?

.....

.....

.....

.....

Are you aware of the side effects of using chemicals that contain toxic ingredients?

1. Yes
2. No

If Yes in question number 3.5 above, name the effects that you know

.....

.....

.....

.....

Do you take into account the presence of toxic ingredients/restricted substances when buying chemicals for your factory?

1. Yes
2. No

If yes in 3.7 above, how can you detect the presence of toxic ingredients? (Please circle the correct answer number)

Import or buy chemicals from a reputable company / companies	1
Look for a quality logo and label	2
Use MSDS as a guide	3
Testing chemicals in the laboratory before using them	4
Others, (specify).....	5

.....

.....

If your answer is 4 in question 3.8, where do you test the chemicals?

Laboratory name	In country	Abroad
	1	2
	1	2
	1	2

What do you say about the accessibility of chemicals for processing hides/skins in the country?

1. They are readily available
2. They are not readily available

If your answer is 2 in 3.10, please name any challenges in accessing and using chemicals (Circle the correct answer, more than one answer is allowed)

Chemicals are not readily available and on time	1

Chemicals do not have the required quality/substandard	2
Not enough information is provided on how to use and the language used is difficult to understand	3
Most chemicals contain toxic ingredients/restricted substances	4
Difficulty in obtaining permits	5
High taxes	6
High prices for chemicals	7
Low expertise on chemicals use	8
Other (specify).....	9
.....	
.....	
.....	

SECTION 4: TECHNOLOGY AND PRODUCTION

Are you aware of the modern leather processing technologies aimed at reducing pollution?

1. Yes
2. No

If your answer is 1 in question 4.1, which technologies among the following do you know? (Please circle the correct answer number)

Enzyme unhairing	1
Chrome recovery and recycling	2
Recycling of tannery liquor	3
High exhaustion technologies	4
Chrome-less tanning	5
Chrome-free tanning	6
Combination tanning	7
Others, (specify).....	8

…… ……	

Does your factory have these modern technologies or does it plan to improve /change technology and use modern ones

1. Yes
2. No

If yes in question 4.3, which of the above technologies do you use for hides/skins processing or do you plan to use?

……

……

……

……

If the answer is no to question 4.3, what are the reasons you do not use modern technology or planning to use in future?

……

……

……

……

Do you think these modern technologies are appropriate for the Tanzanian environment?

1. Yes
2. No

If the answer is no, why?

……

……

……

……

What is the utilization capacity of your factory (Please provide the utilization capacity for the past three years)

Year of production	Installed capacity	Actual production	Capacity Utilization (%)
2017			
2018			
2019			

If the actual production is less than installed capacity, what are the reasons among the following: (Please tick (V) the correct answer)

Low demand for locally processed hides/skins.	
Shortage of raw materials (hides/skins) locally	
Shortage of raw materials (hides/skins) internationally	
Old (Obsolete) plant/machinery and equipment	
Plant operation and maintenance problems due to lack of spare parts for mechanical maintenance	
Plant operation and maintenance problems due to shortage of skilled personnel	
Availability and high cost of loan interest	
Inadequate access of financial services	
Insufficient and unreliable power supply	
High competition with imported artificial leather	
Un competitiveness of export due to high cost of production (raw materials, labor, electricity etc.)	
Poor transportation infrastructure / high transportation costs	
Others (specify)……	
……	

……	
……	

What are your opinions on the costs of leather processing?

1. High
2. Normal
3. Low

If the answer is 1, among the following, what increases processing costs? (Please circle the correct answer)

Technology	1
Processing chemicals	2
High taxes	3
High raw materials (hides/skins) costs	4
High operation costs (water, electricity, labor, etc.)	5
Other, (Specify)……	6

What should be improved so that production costs are reduced?

……

……

……

……

SECTION 5: MARKETS

Please specify the markets for your leather (Fill in the correct answer number in the box)

Local market only	1.
Export market only	2.

Both local and export market 3.

If the answer is 3, please specify the percentage for export market ..... %

If the answer is 1 to question 5.1, what are the barriers that you think are hindering the growth of exports of leather? (Please fill in the correct answer number in the box)

Low capacity of distribution	1	
International health law of Human, Fauna and Flora (SPS)	2	
Failure to reach the international market standard	3	
Less ability to grab opportunity in the international market	4	
Failure to send the products to the market on time	5	
Low motivation	6	
Low capacity of negotiation in the market	7	
Others (mention).....	8	

.....

.....

If the answer is 2 or 3, specify the countries where you export your leather

Stage of leather	Region/Country of destination	Reason
Semi-finished		
Finished		

What do you say about the level of competition in the domestic and foreign markets? (tick (V) the correct answer)

Level of competition	Local market	Export market
High		
Normal		
Low		

If you are exporting your leather, what exactly is being considered in the quality of the leather? (Please circle the correct answer number)

Appearance	1

Physical and mechanical properties	2
Presence of restricted substances/toxic ingredients	3
Other, (specify)……. ……. …….	4

Are your customers satisfied with your leather?

Highly satisfied	1.
Satisfied	2.
Average	3
Not satisfied	4.
Not satisfied at all	5.

If they are not satisfied, what are the reasons? (Circle the correct answer, more than one answer is allowed)

Leather are of poor quality	1
Leather are of high price	2
Leather do not reach customers on time	3
Low production	4
Others (specify)……	5
……	
……	
……	

SECTION 6: LEATHER INDUSTRY POLICIES AND LAWS

Are you aware of policies and laws that govern the leather industry in the country?

1. Yes
2. No

If the answer is 2, go to section 7

If your answer is yes, please state the policies and laws you are aware of

……

……

……

……

Do you think our policies and laws need to be amended?

1. Yes
2. No

If the answer is yes, what should be amended?

……

……

……

……

SECTION 7: HEALTH AND ENVIRONMENTAL MANAGEMENT

What kind of waste is produced in the processing of raw hides/skins at your factory

Type of waste		Amount per year
Effluent waste	1	

Trimmings	2	
Shavings	3	
Buffing dust	4	
Sludge	5	
Flashings	6	
Others, (Specify).....	7	

What methods do you use to dispose/treat such waste?

.....

.....

.....

.....

Do you spend any money on disposing /treating wastes generated at your factory?

1. Yes
2. No

If yes, what are the costs you incur in disposing / treating your factory waste?

.....

.....

.....

.....

Are adequate facilities available for the treatment and disposal of waste in the country?

1. Yes
2. No

What are the challenges you face in disposing / treating waste in your factory?

.....

.....

.....

.....

Have you ever received any training on pollution and how to prevent pollution in the leather industry?

1. Yes
2. No

What can be done to ensure that pollution from the leather industry is controlled in the country?

.....

.....

.....

.....

Are you aware of any health effects that may be caused by the entire hides/skins processing activity?

1. Yes
2. No

If the answer is 2, go to Section 8

If the answer is yes, mention the health affects you are aware of.

……

……

……

……

What do you think can be causes of these effects?

……

……

……

……

What do you suggest should be done to reduce or eliminate these effects?

……

……

……

……

SECTION 8: OTHERS

Please indicate whether you agree or disagree with the following statements (tick (V) the correct answer) (1 - Strongly agree, 2 – Agree, 3- Neither agree nor disagree, 4 - Disagree, 5- Strongly disagree)

	1	2	3	4	5
There are enough operators / professionals for the tanning industry in Tanzania					

The government should be the main facilitator to improve the quality of the domestic environment for free trade					
Laboratory / Testing equipment for leather in the country is sufficient					

What do you suggest to be done to improve the leather industry in the country

……

……

……

……

……

……THANK YOU……

Appendix 2: Questionnaire for Manufacturer of Leather products in Tanzania (Questionnaire B)

Questionnaire B

QUESTIONNAIRE FOR LEATHER PRODUCTS PRODUCERS

Dear leather products producer,

REPOA in collaboration with the Tanzania Industrial Research and Development Organization (TIRDO) are conducting research aimed at capacitating the leather sector in Tanzania to produce quality leather products which can compete at the national and international market. To complete this study, accurate and correct information from leather products producers is important.

Therefore, you are requested to give the information through this questionnaire for the benefit of your industry/business and the nation. Also, the information given in this questionnaire will only be used for the objective of this research and not otherwise

Thank you for your cooperation.

B	

Questionnaire number

SECTION 1: INTRODUCTION

Location of the Industry:

Region/City: District:

…….

……..

Ward/Street:

…….

Type of Ownership (Please indicate the correct number in the box)

1. Public
2. Private
3. Public-private partnership

If the answer is 3, please indicate the % of public ownership …… %

Nationality of the owner

1. Tanzanian
2. Foreigner
3. Tanzanian and Foreigner (joint venture)

If the answer is 3, please indicate the % of Tanzanian ownership …… %

Could you please indicate how many employees of your factory work in each of the following occupations: (If an employee has more than one occupation, choose the main one, i.e. the one to which most work hours are dedicated.)

	Number of Employees

Occupation group	Me				Fe			
	Level of Education				Level of Education			
	Primary	Secondary	Diploma	degree	Primary	Secondary	Diploma	degree
Managers/Directors								
Professionals (Engineers, Accountants, Lawyers and etc.)								
Technicians and Associate professionals								
Clerical supports, services and sales workers								
Leather processing workers								
Plants and machines maintenance and operators								
Elementary occupations								

The year when the factory started production .....

Value of production sales for the past year .....

SECTION 2: AVAILABILITY AND QUALITY OF LEATHER MATERIALS (LEATHER)

Where do you get leather for your factory?

1. In the country
2. Outside the country
3. Both (In and outside the country)

Where do you purchase leather and other materials for your factory?

Type of Material	Tanzania (Indicate the place of purchase (Shop/Industry))	Outside the Country (Indicate the country)
Finished leather		
Sole		
Lining PVC		
Insole		
toe puff		
Shank		
Nails		
eyelets		
Shoe string		
Sponge		
Glue PU Glue SIMBA Glue		
Buckle		
Accessories		
Others …… …… ……		

If the answer is 2 or 3 to question number 2.1, please state the reasons (Please circle the answer in the table below)

Description	Yes	No	More details
Accessibility (Transport)	1	2	
Quality	1	2	
Availability	1	2	
Cost	1	2	
closeness	1	2	

Others (Mention)…… …… ……	1	2	

Please mention leather products produced in your industry?

Main products ……

Other products ……

……

……

……

Does the leather produced inside the country have the required quality?

1. Strongly agree
2. Agreed
3. Average
4. Disagree
5. Strongly disagree
6. I don't know

If the answer is 4 or 5 in question 2.5, what are the reasons of poor quality leather (Please circle the correct answer)

	Leather is not strong and tear when making products especially lasting for shoes	1
	leather color fastness is poor	2
	The leather is not soft	3
	Holes on the leather	4
	Spots on the leather	5
	Leather contains brand mark	6
	Leather contain wrinkles	7

	Others(specify)…… …… ……..	8

Leather produced in country are suited for producing which kind of leather products?

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When purchasing leather do you look for the followings to ensure the quality? (Please tick (V) the correct answer)

	Mark of quality	Yes	No
i.	I look the smoothness of the leather according to the products I want to produce		
ii.	I look at the thickness of leather according to the products I want to produce		
iii.	I look at the color penetration, uniformity and intensity		
iv.	I look at the wrinkles on the leather surface		
v.	I look at the bland mark and other marks on the surface of the leather which my destroy the quality of the leather		
vi.	I look at the hair roots		
vii.	Others (specify)…….. …….. ……		
viii.	I don't look at any thing		

Are your staffs trained on how to identify the quality leather?

1. Yes

2. No

If the answer is yes, which kind of training did they attend? (Please circle the correct answer)

Formal training provided within the country	1
Formal training provided outside the country	2
Informal training provided within the industry	3

If the answer is 1 or 2, please mention the institution offered the training

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Please specify what can be done to solve the challenges of quality of leather products in Tanzania?

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SECTION 3: TECHNOLOGY AND PRODUCTION OF LEATHER PRODUCTS

In your factory do you use modern technology or do you have the plan of using it in future?

1. Yes, I use modern technology
2. Yes, I have a plan
3. No

If the answer is yes, which modern technology are using or planning to use to make your leather products? (Please circle the correct answer)

Computer aided designing / manufacturing (CAD/CAM) 1

Automated machines (shoe lasting etc.) 2

Other, (Mention)..... 3

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If the answer is no, what are the reasons you do not to use or planning to use the modern technologies?

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What is the utilization capacity of your factory (Please provide the utilization capacity for the past three years)?

Type of product	Unit of measurement	Machine installed Capacity	Actual production	Year of Production	Capacity utilization (%)
				2017	
				2018	
				2019	

If the actual production is less than installed capacity, what are the reasons for underutilization ?: (Please tick(V) the correct answer(s))

Low demand for locally processed hides/skins.	
Shortage of raw materials (hides/skins) locally	
Shortage of raw materials (hides/skins) internationally	
Old (Obsolete) plant/machinery and equipment	
Plant operation and maintenance problems due to lack of spare parts for mechanical maintenance	
Plant operation and maintenance problems due to shortage of skilled personnel	
Availability and high cost of loan interest	
Inadequate access of financial services	
Insufficient and unreliable power supply	
High competition with imported artificial leather	
Un competitiveness of export due to high cost of production (raw materials, labor, electricity etc.)	
Poor transportation infrastructure / high transportation costs	
Others (specify)……	
……	
……	
……	

What do you think can be done to solve the challenges?

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What do you say about the production costs of leather products in Tanzania?

1. High
2. Normal
3. Low

If the answer is 1, which ones among the following rise the cost of production? (Please circle the correct answer(s))

Technology	1
Less availability and high price spare parts, machine and other materials of making production	2
High taxes	3
High price of raw materials	4
High running cost (water bills, electricity and labors etc.)	5
Others, (mention)……	6

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What should be improved to lower the cost of production?

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SECTION 4: UNDERSTANDING OF CHEMICALS AND TOXIC INGREDIENTS

Do you know about toxic ingredients / restricted substances available in leather produced by substandard chemicals?

1. Yes
2. No

If the answer is 2, please go to section 5

If your answer is yes, mention the toxic ingredients / restricted substances you know

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Are you aware of the side effects of using leather that contain toxic ingredients / restricted substances?

1. Yes
2. No

If the answer is yes, please mention the effects you know

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Do you take into account the presence of toxic ingredients / restricted substances when buying leather for your factory?

1. Yes
2. No

If you answer is yes, how do you identify the leather that contains toxic ingredients / restricted substances? (Please circle the correct answer(s))

Analyzing the leather sample	1
Requesting the information of chemicals used to process leather?	2
Asking the leather processor if the leather contains restricted substances?	3
Purchasing leather from certified leather processor	4
Identifying health impacts after using processed leather	5
Others (Mention)……	6

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SECTION 5 : MARKET

Please mention the market of your products (Circle the correct answer)

Local market only	1.
Export market only	2.
Both Local and Export market	3.

If the answer is 3, please indicate the percentage of export market …… %

If the answer is 1 to question 5.1, what are the main barrier(s) that you think are hindering exports of leather products? (Please circle the correct answer(s))

Low capacity of distribution	1
International health law of Human, Fauna and Flora (SPS)	2
Failure to reach the international market standard	3

Less ability to grab opportunity in the international market	4
Failure to send the products to the market on time	5
Low motivation	6
Low capacity of negotiation in the market	7
Others (mention).....	8

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If your answer is 2 or 3 to question 5.1, mention the region / country where you sell your products

Type of product	Region / Country of destination	Reasons

How do rate the level of competition between the local and export market? (put the (V) mark in a correct answer)

Level of completion	Local Market	Export market
High		
Medium		
Low		

If you sell your products outside the country, what are the main factors being considered? (please circle the correct answer)

Appearance	1

Physical and mechanical properties	2
Presence of restricted substances/toxic ingredients	3
Other, (specify).....	4
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Are your customers satisfied with your products? (Please tick (V) the correct answer)

(1 – Strongly agree, 2 – Agree, 3- Neither agree nor disagree 4- Disagree, 5- Strongly disagree, 6 – I don't know)

Category of users	1	2	3	4	5	6
Children						
Youth						
Adults						
Disabled						
Others (Mention)..... ....)						

If they are not satisfied, what are the reasons? (Circle the correct answer, more than one answer is allowed)

Poor quality of the products	1
High price of products	2
Products not reaching the market in time	3
Low production capacity	4
Others (mention).....	5
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SECTION 6: LEATHER INDUSTRY POLICIES AND LAWS

Are you aware of policies and laws that govern the leather industry in the country?

1. Yes
2. No

If the answer is 2, go to section 7

If your answer is yes, please state the policies and laws you are aware of

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Do you think our policies and laws need to be amended?

1. Yes
2. No

If the answer is yes, what should be amended?

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SECTION 7: HEALTH AND ENVIRONMENTAL MANAGEMENT

What kind of waste is produced in the production of leather products at your factory?

Type of waste		Amount per year
Effluent waste	1	
Trimmings	2	
Shavings	3	
Buffing dust	4	
Sludge	5	
Flashings	6	
Others, (Specify).....	7	

What methods do you use to dispose/treat such waste?

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Do you spend any money on disposing /treating wastes generated at your factory?

1. Yes
2. No

If yes, what are the costs you incur in disposing / treating your factory waste?

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Are adequate facilities available for the treatment and disposal of waste in the country?

1. Yes
2. No

What are the challenges you face in disposing / treating waste in your factory?

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Have you ever received any training on pollution and how to prevent pollution in the leather industry?

1. Yes
2. No

What can be done to ensure that pollution from the leather industry is controlled in the country?

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Are you aware of any health effects that may be caused by the entire process of producing leather products?

1. Yes
2. No

If the answer is 2, go to Section 8

If the answer is yes, mention the health affects you are aware of.

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What do you think can be the causes of these effects?

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What do you suggest should be done to reduce or eliminate these effects?

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SECTION 8: OTHERS

Please indicate whether you agree or disagree with the following statements (Please tick (V) the correct answer) (1 – Strongly agree, 2 – Agree, 3- Neither agree nor disagree 4- Disagree, 5- Strongly disagree)

	1	2	3	4	5
There are enough operators / professionals for the leather products factories in Tanzania					
The government should be the main facilitator to improve the quality of the domestic environment for free trade					
Laboratory / Testing equipment for leather in the country is sufficient					

What do you suggest needs to be done to improve the leather industry in the country?

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……THANK YOU……

Appendix 3: Focus Group Discussion Questions

MAJADILIANO YA KIKUNDI (FOCUS GROUP DISCUSSION, FGD):

Lengo kuu la majadiliano: Kupata maoni ya wadau juu ya suluhisho la changamoto zinazoikabili sekta ya ngozi Tanzania

Tarehe ya FGD	17 Novemba 2020	
Sehemu ya FGD	Ukumbi wa TEHAMA wa TIRDO	
Muda wa FGD	Kuanzia: 0830, Muda: Dakika 90	
Idadi ya waudhuriaji	9	
Msimamizi	Dkt. Cecilia China, Dr. Jamal Msami	Mtafiti-Kitengo cha Ngozi na Nguo, TIRDO, REPOA
Mratibu / Mnasa sauti	Rachel Elibariki	Mtafiti-Kitengo cha Mazingira, TIRDO
Mchukua maelezo	Atupele Kilindu	Mtafiti – Uhandisi Maendeleo, TIRDO
Wahudhuriaji	Jina	Cheo na taasisi unayotoka

Maswali ya kuongoza mjadala

Muda wa maswali: Dakika saba kwa kila swali

Tanzania ni ya pili Africa baada ya Ethiopia kuwa na Mifugo mingi, lakini bado tunaagiza bidhaa za ngozi na mbadala wa bidhaa za ngozi kama plastiki na mitumba kutoka nje. Sisi kama mashirika ya serikali na wadau wakubwa wa kuendeleza viwanda ikiwemo vya ngozi, tunadhani tatizo ni nini?

Japo kwa sasa tupo kwenye Tanzania ya Viwanda lakini tukiangalia viwanda vilivyojengwa, vilivyopo na vinavyojengwa, bado kwa sasa kuna viwanda vichache sana vya ngozi vinavyozalisha. Tunadhani ni kwanini watanzania na wawekezaji kutoka nje hawawekezi sana kwenye sekta ya ngozi?

Mnazungumzije upatikanaji ngozi mbichi nchini? Je, zina ubora wa kutosha? Kama hazina ubora nini tatizo na tufanye nini kutatua changamoto za ubora?

Vipi kuhusu ubora wa ngozi zilizochakatwa na bidhaa zake? Je, zinatosheleza soko la ndani? Je ushindani upoje kati ya bidhaa za ngozi zinazozalishwa ndani na bidhaa mbadala zinazoingizwa nchini kama vile mitumba na viatu vya plastiki?

Viwanda vyetu vinazalisha ngozi na bidhaa zake kwa kiwango cha kushindana na Soko La kimataifa? Kama hapana nini kikwazo na tufanye nini ili ziweze kupenya na kushindana?

Vipi kuhusu sheria na sera zetu za ngozi, zinajitosheleza kusaidia sekta ya ngozi kukua au zinahitaji maboresho? Ni marekebisho yapi tunaweza kuyapendekeza?

Tanzania ina vifaa na wataalamu wa kutosha wa kuhakikisha ukuaji wa viwanda na uzalishaji wa ngozi bora?

Sekta ya ngozi inatumia chemikali nyingi sana ambazo kama zisipotumiwa kwa usahihi zinaweza kuleta madhara kwa binadamu na mazingira. Je, tunahakikishaje kuwa kemikali zinazotumika ni sahihi na hazileti madhara?

Viwanda vya ngozi ni moja kati ya viwanda duniani kote vinavyoripotiwa kuchafua mazingira. Vipi Tanzania hali ipoje? Tunafikiri nini kifanyike kuondoa au kupunguza changamoto hizo?

Kuna wachakaji wadogo wadogo kadhaa wanaojihusisha na uzalishaji ngozi. Je serikali inawatambuaje hawa? Ni kwa namna gani wanawezeshwa ili kuwa na mchango katika kuongeza thamani zao la ngozi?

Kumekuwa na malalamiko kutoka kwa wafanyabiashara wa ngozi na bidhaa zake kwamba wanakutana na tozo nyingi zinatopelekea kupunguza faida katika uzalishaji. Unafikiri nini kifanyike ili kuwapunguzia viwanda na wauza bidhaa tozo zinazowakabili ili wafanye biashara kwa faida?

Kama wadau wa ngozi ni vitu gani hasa mnakutana navyo au changamoto gani mnayokutana nayo katika kuinua sekta ya ngozi nichini? Nini kifanyike?

Appendix 4: List of imported chemicals in Tanzania leather sector (2017-2020)

LIST OF CHEMICALS IMPORTED TO TANZANIA AS PER TRA

40 X 25KGS MELAMINE SYNTAN

ABHITAN TFFS BATCH NO 112

ABHITAN TPDL BATCH NO 104

ABHITAN TVG BATCH NO 103

ACRYLIC RESIN SYNTAN (LUNATAN ARN)

ACRYTAN SN

ALAN VW, GORGAS, ALANBASE, BRINK EMS, KIM ER100

ALUMINIUM SYNTAN (LUNATAN PAT)

AMMONIUM SULPHATE

AQUEOUS POLYURATHENE RESIN

AQUEOUS POLYURATHENE RESIN RU

AQUEOUS POLYURATHENE RESIN RU 3901

ASSORTED SYNTAN

AUX 9025

BASIC CHROMIUM SULPHATE

BLACK R.K PASTE (SYNTHETHIC ORGANIC DYE)

BLUE DYE FOR TRICLON

BUSAN 1346

BUTAN 1913,7815F,1908F,1906F, 1907F

BUTAN 1913NF

BUTAN 78 10LT

BUTAN 7815F

BUTAN 7815F

BUTAN 7815LT

BUTAN OIL

BUZYME 146

CAESIN BINDER

CASEIN BINDER (TEX BINDER MP)

CHROME SYNTAN (LUNATAN WCR)

CLOUDING AGENT

COMPACT FATLIQUOR & ASSORTED SYNTAN

COPOLYMER SYNTAN (LUNATAN AE 30)

CORILIME VTN

DERMALENE PR

DREAM TAN

DYE LEVELLER (LUNATAN DDS)

EMULGATOR 286

EURO SHIELD PU 411 GREY

EURO THEME HP425 20LTR.PAIL

FLAT LIQUOR

GOGRAS BL/E

LUNATAN, VICATAN

MELAMINE SYNTAN

LEATHER TANNING CHEMICAL

NEUTRALIZING, REPLACEMENT

LUNATAN BOS

LUNATAN NSP

MELAMINE RESIN

MELAMINE RESIN SYNTAN (LUNATAN MR)

MELAMINE SYNTAN (LUNATAN MR)

MELAMINE SYNTAN, REPLACEMENT & ACRYLIC RESIN

MELAMINE SYNTANS (VICATAN FV 6)

MISCROBATE

MYROBALAM POWDER (LUNATAN WM)

NERO ER

NEUTRALISING SYNTAN (LUNATAN NS)

NEUTROSKIN BF

NOUSPERSE FN 1566

ORGFIX CR

ORGTAN ACC

ORGTAN CFF

ORGTAN CSM

ORGTAN GR 13

ORGTAN RE

ORGTAN WT

ORTAN RE

PIGMENTS.

POLYEON TCBX BATCH NO 103

POLYFILL TPF BATCH NO 104

POLYMERIC SYNTAN (LUNATAN PET LIQ)

POLYMERIC SYNTAN (LUNATAN PET)

POLYPROPYLENE HOMOPOLYMER

REHOLATE AC 425

REPLACEMENT (LUNATAN S)

REPLACEMENT SYNTAN

REPLACEMENT SYNTAN (LUNATAN S)

REPLACEMENT SYNTANS (VICATAN S01)

RODEX 286

SOAKING ENZYME BATCH NO 101

SODA ASH

SODIUM BI SULPHATE

SODIUM SULPHIDE

SOFTENOL APB

STEARIC MALIC SYNTAN (RETAN SMX)

SUPRA MONIACTIVE GS 777 (REACTIVE DYES)

SYNTAN (LEATHER FINISHING CHEMICALS)

SYNTHENIC TANNING AGENT

SYNTHETIC ORGANIC DYESTUFFS

SYNTHETIC TANNING AGENT SAPCOTAN R

SYNTHETIC TANNING SUBSTANCES

TEX COMPACT BINDER

TURTAN P 700, TURTAN M711, TURESIN D711

VEGETABLE SYNTAN

VEGETABLE SYNTAN (LUNATAN TM)

VEGETABLE SYNTAN (LUNATAN VM)

VEGETABLE SYNTAN (RETAN VM)

VEGETABLE SYNTAN (RETAN VS)

WASER LAC

WHITE SYNTAN (LUNATAN CX)