



Science

THE IMPACT OF LIVE ANIMAL EXPORT ON MEAT AND MEAT PRODUCTS EXPORT IN ETHIOPIA

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Abstract

The purpose of the study was to assess the impact of live animal export on meat and meat products export and to identify the major factors of the export. The study revealed that the number (volume) of live animal export reached highest level (783,888 heads) in 2012 and lowest (279,480 heads) in 2017. The volume of meat and meat products export has increased from 4,775 tons in 2008 to 19,779 tons in 2017. This might indicate that exporting live animals has an impact on meat and meat products export by limiting the supply of live animals to export abattoirs making them perform below their processing capacity. Seasonality and low supply of quality animals was ranked the first factor affecting the live animals, meat products export. Thus, the Ethiopian government and other concerned stakeholders should focus on implementing different strategies and legal frameworks to either stop or minimize live animal trade and export.

Keywords: Export; Impact; Live Animals; Meat; Meat Products.

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1. Introduction

Ethiopia has the largest livestock population in Africa. The estimated total livestock population includes 59.46 million cattle, 30.7 million sheep, 30.2 million goats, 1.21 million camels, 59.5 million poultry, 6.19 million beehives and 11.01 million equines (CSA, 2016/17). This livestock sector has been contributing considerable portion to the economy of the country and plays an important role in providing export commodities, such as meat and meat by-products live animals, hides, and skins, finished leather products and leather products to earn foreign exchanges to the country.

Ethiopia has been exported live animals to many different countries; mainly to Sudan, Somali, Egypt, Djibouti and Saudi Arabia, Yemen and the United Arab Emirates. For the last ten years, it has been exported about 5,012,487 heads of live animals. Similarly, the volume of meat and meat products exported to different countries about 1,232,939 tons (CSA, 2016/17). Global meat

consumption reached more than 307 million tons in 2013, indicating a growth of about 13 percent between 2005 and 2013 (FAO, 2013). In spite of the these potentials, Ethiopia has imported significant amount of meat from the United States of America, United Arab Emirates, Italy, The Netherlands, China and South Africa (Yesihak YM and Edward CW, 2015).

According to the study conducted by (Ameha, 2011), the country has some of the important opportunities influencing the meat and live animals industry, particularly the export sector. The number of modern livestock products industry, particularly meat export firms established in the country has been on the rise. In the country, the number of abattoirs, capacity, the volume of meat exported and the hard currency earned from this industry (meat) is getting ever-increasing (Tekeba et al., 2018). Although the country is endowed with a very high potential of livestock resources, the contribution of the sub-sectors to the national economy is much below the potential (Terefe, 2008).

Although exporting value added livestock products is the focus of Ethiopian Government to earn the best possible foreign exchange from our Livestock resources, the export of Live animals make a considerable contribution to Ethiopian economy in terms of export Earnings, a large number of the country's ruminants have been traditionally smuggled to neighbouring countries. Reports from custom and Revenue Authority shows that illegal sale of livestock is practice with the neighbouring countries of Somalia and Kenya, and Sudan and Djibouti (ERCA, 2017).

The potential to increase live animal exports from Ethiopia is constrained by a number of internal weaknesses varying from poor infrastructure to SPS (sanitary and phytosanitary standards) and the recurrent ban imposed by the importing countries of the Middle East. Regarding Ethiopian export destination, meat and live animals exports is overly dependent on demand from just two countries: Saudi and Dubai. The Middle East countries are Ethiopia's traditional destinations for meat and livestock exports (Aklilu, 2008).

For Ethiopia livestock to compete successfully in the export market, it requires understanding the problems and opportunities in the export market, knowing elasticity of Ethiopian exports to foreign income, relative price, the loss due to the ban by the usual importers; Middle East economies can be minimized if the market outlet is diversified, the need to increase the export volume as the livestock export sector remains underutilized. Given the development potential of the livestock resources of Ethiopia, boosting foreign currency earnings through the export of value added livestock products is vital for economic development of Ethiopia. However, the legal and illegal export of live animals shelters the live stock value adding industries (meat and meat products exporting industries) by reducing the availability of the desired raw materials (inputs) to those industries.

Even though there are separate studies conducted with regard to live animal, meat and meat products export in the country, none of those studies has tried to assess the impact of live animal export on meat and meat products export. Therefore it is worth to study and quantify the impact of the live animal export on meat and meat products in Ethiopia to access the nature of the exportable items to the actors that are engaged in the production and export of livestock value added products in Ethiopia during the analysis period.

Objectives of the Study

The objectives of the study were;

- To assess the impact of live animals export on meat and meat product export
- To identify the major factors affecting live animals, meat and meat products export.

2. Materials and Methods

Sampling Techniques and Sample Size Determination

Basic information was gathered from primary and secondary data sources. The sampling technique employed was random sampling for live animal exporters whereas all the meat and meat product exporters are considered in data collection. The primary data was collected from both live animal and meat and meat products exporters. There are more than 300 legal live animals exporters register in ministry of trade and industry and about 11 meat and meat products exporters (abattoirs). Therefore, about 90 live animal's exporters from 300 and all the eleven meat and meat exporters were considered for collecting the primary data. A structured and semi structured questionnaire were developed and pretested for its consistency and applicability to the designed objectives.

Data Types and Management

Both qualitative and quantitative data types were generated using semi structured questioner survey. Basic information was gathered from secondary data and informal survey from key informants prior to the actual survey. Based on the information obtained from the secondary data and informal survey, a structured questionnaire was developed and pretested for its consistency and applicability to the designed objectives.

Secondary data were collected since 2008, the time when the Ethiopian economy has been transformed and made progress in reducing the anti-export bias in its trade policy. Secondary data were collected using semi structured questionnaire from reports of different concerned offices and published and unpublished materials.

Data from primary and secondary sources were arranged and coded using Microsoft Excel and analyses was carried out using tables and graphs. SPSS version 23 was used to analyze the constraints of live animals, meat and meat product exporters.

3. Results and Discussion

Trend of Live Animals Export for The Last Ten Years (2008-2017)

Ethiopia has been exporting live animals for a number of years and this leads the country not to get the anticipated amount of income from value addition and unable to create the jobs to its citizens. The country exported live animals to Sudan, Somalia, Saudi Arabia, Egypt, Libya and other countries. Ethiopia has been exporting a total of 5,012,487 heads of animals, of which 1,582,076; 688,021; 2,452,569 and 289,821 heads respectively represent cattle, camel, sheep and goats, to different countries for the last ten years (2008-2017). The average annual live animal export was 501,246 heads earning a total average annual income of 123,294,000 USD and an average price of 245.97 USD per head. The number of live animal export increases from 2008-2012 and shows a decreasing trend 2012 onwards (Figure 1).

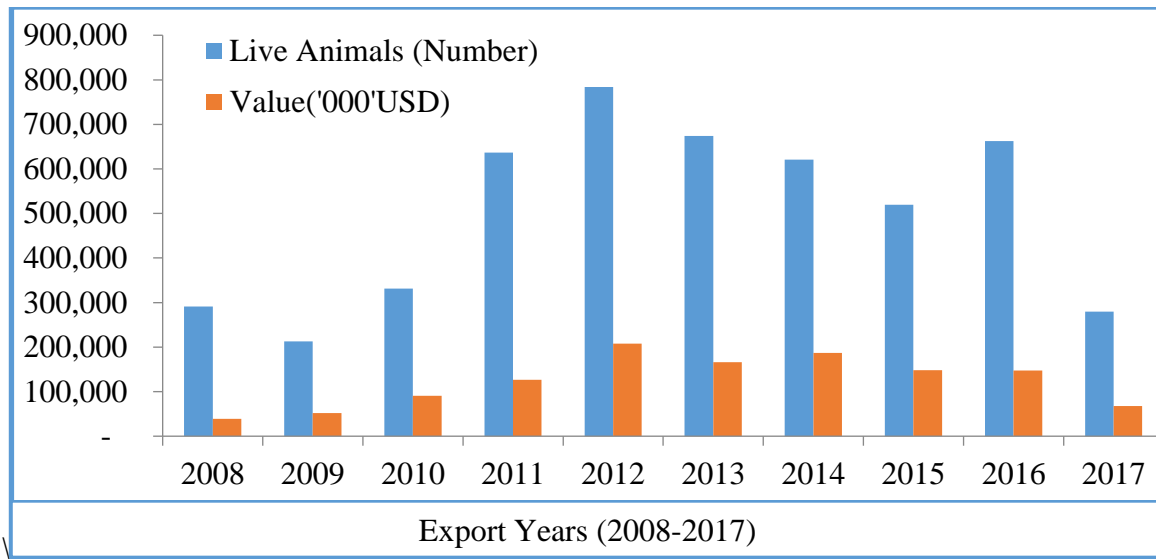


Figure 1: Live animals(number) export and income (USD)

Exporting live animals has an indirect implication on the processing capacities of the industries (export abattoirs) in particular and the country in general. Moreover, it has its own impact on the country and industries not to transfer improved technologies in the livestock sector. This might be due to occurrence of animal diseases leading to strong control mechanism on live animals which means live animal marketing system was based on letter of credit (LC) which holds most of the working capital of the exporters and an increased strong movement controls like the need for movement permits which incurs costs and time consuming and strict health certificate requirements for export. It is inline with the study conducted by (Eyob and Zewdu,2016 which revealed that contraband/smuggling and illegal trade that have major impact on the livestock marketing system through loss of foreign exchange; income taxes and its impact on legal livestock trade.

Trend of Meat and Meat Products Export for The Last Ten Years (2008-2017)

By the year 2008, there were only four export abattoirs (Modjo Modern Export abattoirs, Plc, Elfora Agro-Industry Plc., Luna Export Plc and Hashim Nuru Jiru Plc). The average processing and exporting capacity of these abattoirs was 30,380 tons annually. But now a days, the number of meat export abattoirs has been increased to eleven. The total amount of meat export for the last ten years was 145,299 tons earning about a total of 6,58,815,000 USD (Fig.2). Unlike the export of live animals, the meat and meat products export showed an increasing trend. But, the increase in meat and meat products export was not as of expected and this might be due to frequent ban of importing countries on meat and livestock from the country as a result of outbreaks of livestock diseases.

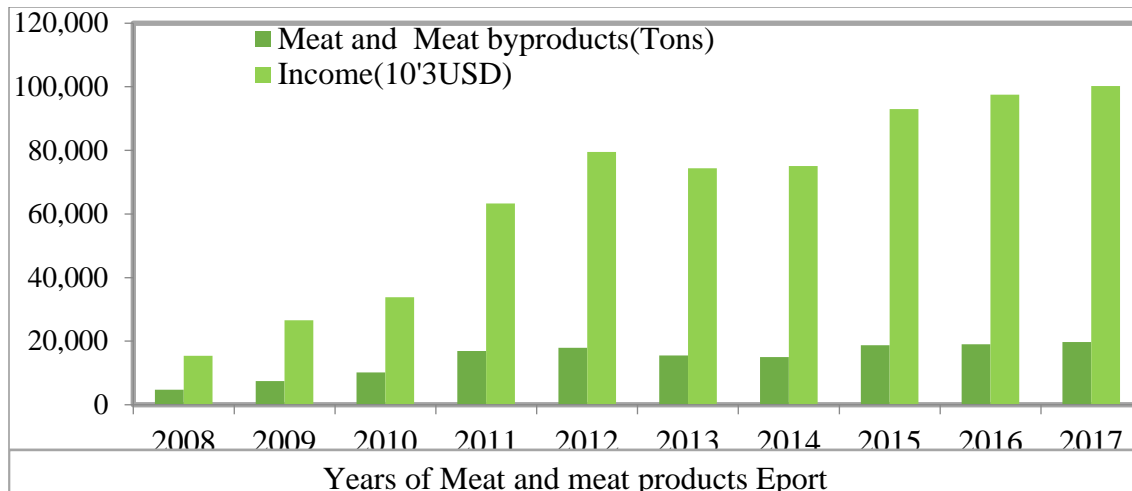


Figure 2: Volume of meat and meat products export(ton) and incme(USD)

Export Share of Meat and Meat Products

Ethiopia has been exported about 144.5 million metric tons of meat and meat products for the last ten years. The country is exporting meat and meat products from sheep, goats, cattle and camels. Chilled Goats carcas takes the lion share in its export accounting about 80% followed by Sheep (mutton), Cattle (beef) ,Camels meat and Edible offals accounting 8.9% ,3.9%,0.03% and 7.16 % respectively (Table 1).The contribution of beef, camel and edible offals for meat and meat products export is relatively lower than goat and sheep and as a result it is advisable to look for alternative market destinations for beef and camel meat and also improve use of edible offals (ERCA 2009-2017).

Livestock trade in Ethiopia is characterized by informal cross-border trade between adjacent neighboring countries, mainly Somalia and Kenya, where the livestock are used either for re-export or domestic consumption (Getachew et al. ,2008). Contraband/smuggling and illegal trade that have major impact on the livestock marketing system through loss of foreign exchange; income taxes and its impact on legal livestock trade (Eyob & Zewdu, 2016). The volume of live animal export.

Table 1: Export volume of meat types and edible offal exported (10³tons)

Year	Goat meat	Mutton	Beef	Camel meat	Edible offal	Total
2008	5049.54	1394.62	1	2	41.59	6,488.75
2009	5896.64	1126.19	1.98	0	248.44	7,273.25
2010	8882.11	337.13	198.77	0	764.19	10,182.2
2011	11444.53	2152.19	1418.43	18.6	1843.61	16,877.36
2012	11814.64	2204.77	2016.46	14.03	1729.86	17,79.76
2013	11970.76	1933.16	63.78	3.58	899.09	14,870.37
2014	12703.53	945.89	0	0.12	1164.85	14,814.39
2015	16044.2	1039.89	11.71	0	1288.3	18,384.1
2016	16321.73	998.38	319.18	0	1132.58	18,771.87
2017	15823.92	803.16	1625	6.55	1262.69	19,521.32
Total	115,951.6	12,935.38	5,656.31	44.88	10,375.2	144,963.4
Share (%)	79.99	8.92	3.90	0.03	7.16	

Impact of Live Animals Export on Meat and Meat Products Export

Ethiopia has been exporting live animals for a number of years and this leads the country not to get the anticipated amount of income from value added products and unable to create the jobs to its citizens. Exporting live animals has an indirect implication on the processing capacities of the industries (export abattoirs) in particular and the country in general. Moreover, it has its own impact on the country and industries not to transfer improved technologies in the livestock sector. The volume of live animal had been increased at an increasing rate from 2008 to 2012 and then decreased after 2012 whereas the volume of meat and meat products export has been increased from 2008 to 2017 at a constant rate (Fig.3).The decrease in volume of live animal export might be attributed to trade bans due to diseases such as foot and mouth disease (FMD) and Rift Valley fever (RVF) have complicated market access to regional markets in Egypt and the Middle East for live animals. A study has been conducted by (Sintayehu et al., 2010) that described the decline in meat export is attributable to periodic interruptions from bans imposed by importing countries due to disease outbreaks.

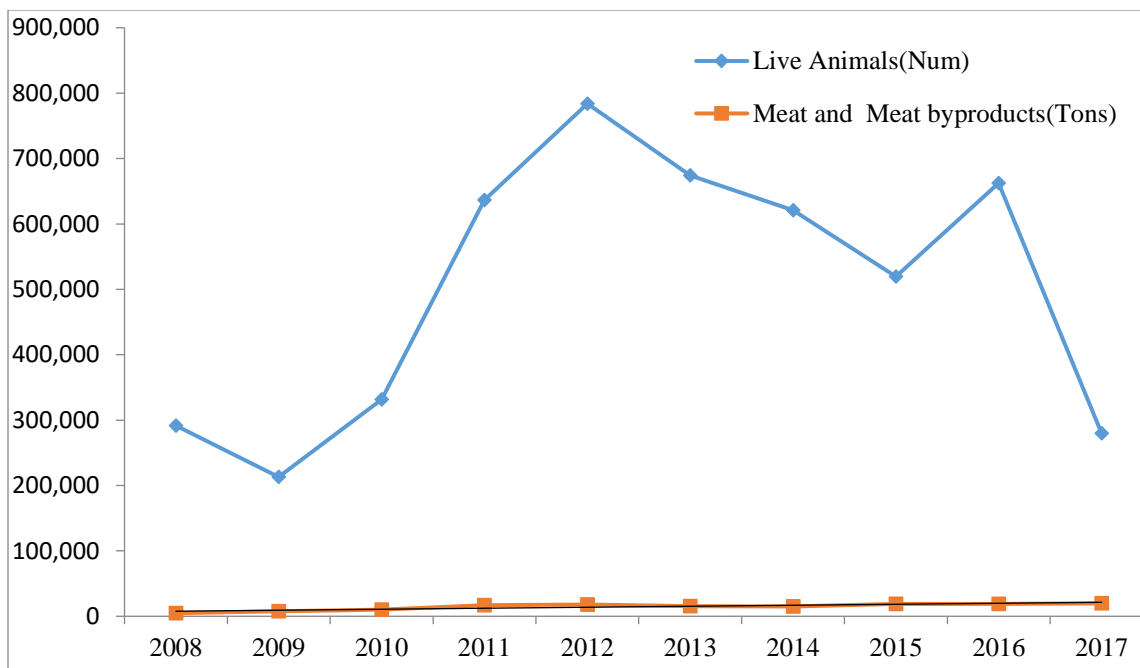


Figure 3: Export volume of meat and meat products(tons) and live animals(number)

The Export Share in USD of Live Animals, Meat and Meat Product Export.

The total amount of foreign currency earned from the export of both live animals and meat and meat products export for the last ten years was about 1,891,826.47 USD with an average annual income of 189,182.65 USD. For the past ten years, the export share of live animals in USD was higher than meat and meat products export except in 2017. The average annual export share of live animals in USD was about 65.2% and for meat and meat products export was about 34.8%. However, the export share of meat and meat products was higher (59.8%) than the share of live animal export (40.2%) in 2017 (Fig. 4). This indicates that if live animals export is regulated and controlled, the volume of meat and meat products will be increased so the export share of value added products in USD will be increased accordingly.

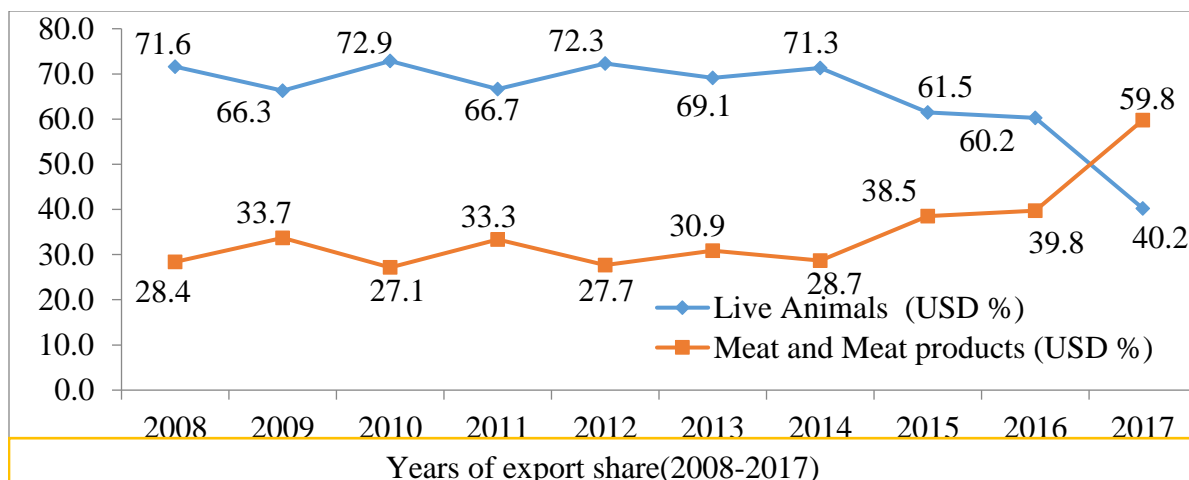


Figure 4: Export share of live animals and meat and meat products (USD)

Constraints of Live Animal Export

Seasonality and low supply of poor quality animals, Existence of middle men in live animal marketing, problem with taxation and letter of credit (LC), inadequate/absence of quarantine service, and insecurity have been identified the five major limiting factors (Table 2) for live animal export and discussed as follows;

Seasonality and low supply of poor quality animals was ranked the first most constraining factor for live animals export. Live animals supply system to the market are fragmented and are not in bulk due to the poor establishment of producer groups or cooperatives to supply the animals in bulk. Moreover; the type of live animal supplied to the market could not satisfy the requirements (age, weight and etc) of the importing countries.

The involvement of the middle men in livestock market chain limits the live animals export to compete in price. The act of price intermediary (middle men) across the livestock market makes the an increase in the transaction of live animals without adding value and constrains the live animal exporters to compete in price. A similar study conducted by (Addis and Diba,2015) has revealed that unstable and non-ethical market environment will prevent an effort to increase supply of exportable animals from the source areas.

Table 2: Major constraints for live animals export

Constraints of live animals export	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	Rank Index	Rank
Problem with taxation and Letter of credit	8	4	18	32	29	0	0	0	0.14	3
Lack of Waiting/Holding Ground	0	0	0	0	0	4	40	47	0.04	8
Lack of standardized unit of transaction	0	0	4	11	18	32	26	0	0.09	7
Seasonality and low supply of Quality Animals	40	36	14	0	0	0	0	0	0.20	1
Existence of middle men	11	47	26	4	4	0	0	0	0.18	2
Weak Linkages between Value Chain actors	14	4	0	0	14	11	25	22	0.09	6
Inadequate/absence of quarantine service	11	0	22	26	18	14	0	0	0.14	4
Insecurity	8	0	7	18	8	29	0	21	0.10	5

*Index = sum of (8*ranked 1st+ 7* ranked 2nd+6* ranked 3rd+5* ranked 4th+4* ranked 5th+3* ranked 6th+2* ranked 7th +1* ranked 8th) for individual constraints divided by the sum of (8*ranked 1st+ 7* ranked 2nd+6* ranked 3rd+5* ranked 4th+4* ranked 5th+3* ranked 6th+2* ranked 7th+1*ranked 8th) for over all constraint.*

Likewise, capital requirement to get Letter of credit (LC) and taxation of live animals at different points including Woreda, Municipality and market point taxations are ranked the third most constraint to live animal export. Facilitating to get LC and minimizing and regulating multiple taxations would improve the supply and export of live animals.

Similarly, Inadequate/absence of quarentine service has been identified as the fourth constrain for live animals export. Adama, Dire Dawa and Jijiga private holding grounds were providing a quarantine services for many years but nowadays the country has one established standard quarantine station at” Mille” which is recognized and accepted by importing countries. Focus should be given to fulfill some important materials, equipment and vet inputs for Adama, Diredawa and Jijiga holding grounds.

Insecurity has also been identied and considered the fifth limiting factor for live animal export. As far as the pastoral areas are the major sources of live animals, the presence of clan based conflicts and political disputes are the among the constraining factors for live animal movement from the source to the local market there by affecting the live animal export and dispute resolution and security is essential to increase the live animal supply and export.

Constraints of Meat and Meat Products Export

Table 3: Major constraints for meat and meat products export

Constraints of Meat and meat products export	1st	2nd	3rd	4th	5th	6th	Rank Index	Rank
Lack of meat animal supply resulting from high Domestic consumption	4	2	3	1	0	1	0.16	5
High purchase price of live animals	3	0	2	2	3	1	0.13	6
Poor animal handling	2	3	0	4	1	1	0.18	2
Existence of middle men in live animal marketing	0	2	1	1	3	4	0.17	4
Presence illegal cross-border trade of live animal	2	1	5	0	2	1	0.18	3
Seasonality and low supply of quality Animals	0	3	0	3	2	3	0.19	1

Index = sum of (6 ranked 1st+5* ranked 2nd+4* ranked 3rd+3* ranked 4th+2* ranked 5th +1* ranked 6th) for individual constraints divided by the sum of 6* ranked 1st+5* ranked 2nd+4* ranked 3rd+3* ranked 4th+2* ranked 5th +1* ranked 6th) for over all constraint.*

As given in table 3, seasonality and low supply of poor quality animals was ranked the first most constraining factor for meat and meat products export. In addition, poor animal handling has been identified and ranked the second constraining factor for meat and meat products export. Animal handling might actually involve all the activities from production to processing but our focus was preslaughter handling of animals. Pastorral areas which are the major source of live animals ,mainly for goats and sheep, are remote from the central areas where abattoirs are located. Live

animals, therefore, suffer from poor handling during transportation (starting from production, holding and slaughtering).

The expansion of illegal cross-border trade of live animal has been identified and ranked the third limiting factor for meat and meat product export. The illegal cross-border trade of live animals has an impact not only on meat export but also on legal live animal export as it makes the live animal export actors to be more benefited due to little legal liability and procedures to follow including health certification, tax, and customs clearing and therefore they might have an illegal competitive advantage to smuggle live animals.

The existence of middle men or involvement and act of intermediary in live animals export value chain ranked the fourth limiting factor and it increases the cost of live animals without adding value to the product. Therefore, the existence of middlemen in the value chain limits the meat exporters to compete in price and hence the government need to regulate and control the market chain to establish a healthy market and sustainable live animal supply to meat and meat product abattoirs. A study conducted by (Tekeba et al., 2018), has described that inability to penetrate huge export markets and maintain substantial market shares, inefficient and non-transparent livestock marketing systems, lack of capacity for cattle slaughtering facilities in cold chain maintenance, processing, packaging of export quality meat and meat products and shortage of consistent and competitive supply of slaughter animals which meet quality requirements mainly for export market were the binding factors for meat export.

4. Conclusion and Recommendations

In order to increase the meat and meat products export, efforts has to be done to either stop live animal contraband/smuggling and illegal trade that have major impact on the livestock marketing system through loss of foreign exchange; income taxes and its impact on legal livestock trade. Live animals export has an impact on the meat and meat products export due to inadequate live animal supply associated with the long supply chain in obtaining quality live animal to produce quality meat and meat products and also contributes for raise live animals cost at export abattoirs.

Even though there is a legal framework, live animals marketing proclamation, which prohibits animal smuggling, there exists an illegal cross-border trade of live animals, which has an impact on the export of value added products like meat and meat products. Therefore, the Ethiopian government and other concerned stakeholders should focus on implementing different strategies and legal frameworks with regard to live animal trade and export. Designing a strategy to increase the number of live animal supplies for export abattoirs by the desired type, weight range and age is also important. Further studies need to be conducted on determining the major factors constraining the live animal supply chain to the meat and meat products exporters leading to stop the live animals export.

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