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Actors' Performance and Value Chain Analysis of Cattle Fattening in Some Selected Districts of Western Oromia, Ethiopia

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Abstract
Despite the fact that Ethiopia in general and the study area is characterized by a high livestock population, its productivity, marketing system, value chain actors' coordination are characterized as low, less developed and weak respectively. Therefore the objectives of the study were to identify core functions and main actors in the fattened cattle value chain, identify marketing channels of fattened cattle in the study areas, estimate the market cost and margin in the fattened cattle trade and identify major constraints and opportunities in its value chain in the western Oromia. Different data, data collection methods and data analysis procedures were undertaken to materialize the objectives of the study. The result of the study indicates that there are six major market channels in the study area and there were loos and/or lack of vertical and horizontal cooperation and linkage among value chain actors. Demand fluctuations, feed shortage, lack of medicines, weak extension service and lack of improved feeds were among others constraints. As the numbers of value chain actor increases and value addition on fattened cattle increases the share of the small scale farm household from final consumers' price decreases. Therefore, enabling constraints at every stage of the value chain must be prioritized and should be solved according to the need of society- if the profit shares of small scale farm households are to be increased. Again to increase the profit share of the small scale farm households the value adding activities should have to be accomplished by primary producer farm household themselves.
Keywords: Value chain analysis, value addition, cattle fattening, fattened cattle, actors

Introduction

Livestock production is an integral part of Ethiopia's agricultural sector and plays a vital role in the national economy. At present, livestock contributes about 20% of the GDP, supporting the livelihoods of 70 % of the population and generating about 11% of annual export earnings. As the country has a large livestock population, which ranks first in Africa and tenth in the world, it has much to gain from the growing global markets for livestock products (UNESC-ECA, 2012).

Ethiopian livestock production system is characterized based on integration with crops production, level of input and intensity of production, agro-ecology and market orientation is categorized as pastoral, agro-pastoral, mixed crop-livestock farming, urban and peri-urban farming and specialized intensive farming systems (Mohamed *et al*., 2004; Amare *et al.,* 2010).

Despite the fact that Ethiopia is characterized by a high livestock population, its productivity is low, at least in terms of conventional products such as meat and milk and farmers received low benefit for their livestock and livestock products production. This mainly due to poor breeds, inadequate feeds, diseases, poor market systems characterized by lengthy marketing processes, high transaction costs, and etc.

The informal cattle trade, over-exploitation producers by brokers, weak and uncoordinated linkages between the major marketing actors and a lack of both market-oriented cattle production and modern cattle marketing channels were the most reasons why producers were less productive and harvest lesser share of final price paid by end buyer of fattened cattle. In addition, the majority of smallholder cattle producers in Ethiopia specifically in western Oromia only sell their animals in response to short term demands for cash, that, is those smallholder farmers are not market and customers oriented producers.

Therefore this paper is going to highlight the value chain status of fattened cattle of some selected districts of western Oromia by giving due attention on describing the existing fattened cattle marketing system, identifying major value chain actors and assess their performance, identifying main marketing channels, opportunities and challenges of fattened cattle value chain. These research findings provide updated scientific information for fattened cattle sector development and for the development of policies that will serve for both production and productivity of the fattened cattle generally for Ethiopia specifically for the study area.

Objectives of the study

The study's overall objective is to undertake a value chain analysis of the fattened cattle marketing in the western Oromia on the bases of three districts namely Illu Hara, Illu Galan and Guto Gidda areas. Its specific objectives were to;

- describe the existing fattened cattle marketing system in the study area
- identify major actors involved in the value chain and assess their performance in the study area
- identify marketing channels of fattened cattle in the study area

- discover major constraints and opportunities in of fattened cattle in the study area

Methodology

Description of the Study Areas

The study was undertaken in three potential central and west zones of Oromia regional state in fattening of cattle for beef. In each zones one district was selected as representative of their zone in fattening cattle for beef. Accordingly Illu Harar, Guto Gida and Illu Galan were selected from Illu Abora, East Wallaga and West Shawa zones respectively.

Guto Gida is the district found in East Wollega zone. It is located at about 328 kilometres distance from Finfinne to the western direction possessing a total area of 901.80 km^2. Guto Gida district is contiguous with Sibu Sire and Wayyu Tuka in the east, Sasiga, Digga and Benshengul Gumuz in the west, Gida Ayana, Abe Dongoro and Gudaya Bila in the north & Wayyu Tuqa and Leka Dulecha to the south. It is divided in to 21 farmers associations and one urban center having the capital town named Nekemte. The district is divided in to three distinct geographical areas with different proportion; namely, highland 0.26 percent, the midland 46.74 percent and the lowland 53.00 percent. The site of the study in the district is located in lowland area known as Ukke.

Illu Harar is the district found in Illu Ababora zone. It is located about 390 kilometres distance from Finfinne to the west direction and found between Dabana and Dhidhesa drivers' catchment. This area of the study is populated by ''Anniya'' and ''Afran Kalo'' among the others clan of Barentu Oromo's inhabitants. These clan of Oromo societies are kwon for their ''Harar Bull'' in the Eastern part of Oromia regional state and they are practicing what has been experienced by their clan in the eastern part of the state her in the study area. The district is also known for its soya bean and rice production.

llu Galan is the district found in west shawa zone of Oromia regional state. It is located on the main road to the west part of the country 200 kilometres away from Finfinne. The district is known for its potential on livestock, maize and horticultural crop production among the others.

Sampling Procedure

A three- stage sampling technique was employed to select sample respondents. In the first stage of sampling procedure, three districts from three zones were selected based on fattened cattle production existence of small scale household farm producers and proximity to the market centres of the study areas: Guto Gidda from East Wollega , Illu Galan from Illu Ababora and Ilu Galan from West Showa Zone. At the second stage, two Peasants association were purposively selected from each district among fattened cattle producers PAs. Finally, from three studies site about 110 sample respondent farm households were selected based on Probability Proportional to Size (PPS) of random sampling method.

Source of data and Collection Methods

Both primary household survey and secondary data were used. The Primary data were collected from small scale farm household producers, traders, trade mister, butchers, restaurants and hotels. The Secondary data were collected from books, journals and other published and unpublished documents from Bako agricultural research center, zonal and bureau of market development offices, livestock development and animal health agency of each district and other related sources to supplement primary data.

A number of usual data collection methods and instruments were used to generate background information to capture value chain related information on relevant variables from all value chain actors at all level of the value chain. These are; focused group discussions (FGD), key informant interviews and visual observations were undertaken in all selected district to identify actors involved in the fattening cattle production, marketing, marketing outlets and challenges and opportunities in fattened cattle production at farm level. Checklist were employed for different activities in the value chain of fattened cattle to guide group discussions and key informants interviews. After focused group and key informants discussions were undertaken, structured questionnaires were developed for each actor in fattened cattle value chain to quantify the findings at all stages in the fattened value chain.

Method of Data Analysis

Quantitative data collected from the study areas were analyzed using thematic approach and used for as bases to prepare structured questionnaire. Quantitative data were analyzed using descriptive statistics analysis techniques using SPSS computer software. Descriptive statistics such as mean, standard deviation, frequencies distribution, and percentages were used to have a clear picture of the characteristics of sample units.

Result and discussion

Household Characteristics

The aggregated average age of sample households was about 40.87 years with standard deviation of 12.15 and the average family size of the sample households was 7.07 persons per household, with standard deviation of 2.67 which is relatively higher than national average agricultural household size which is 5.2 persons per household (Essa, 2011). The aggregated average education level expressed in years of schooling of the sample household heads was about 4.55. With regards to the sex and marital status of respondents, about 97.3% and 99.1% of the sample households were male headed and married headed, respectively (Table 1).

Table 6. Sample household heads characteristics during the survey period

Household description		Guto Gida (=47)		Ilu-Harar (N=33)		Ilu-Galan (N=30)		Total (N=110)	
		Mean	Std.D	Mean	Std. D	Mean	Std. D	Mean	Std. D
Age of Household		40.15	8.43	38.97	14.95	44.10	13.40	40.87	12.15
Education level		4.28	3.27	3.36	2.60	6.30	4.36	4.55	3.58
Family size		6.70	1.90	6.48	2.39	8.37	3.53	7.09	2.67
Household headed		N*	%	N	%	N	%	N	%
Sex	Male	45	95.7	32	97	30	100	107	97.3
	Female	2	4.3	1	3	0	0	3	2.7
Marital status	Married	47	100	32	97	30	100	109	99.1
	Widowed	0	0	1	3	0	0	1	0.90

Source: Survey result (2015), NF* =Number of frequency

Farm Characteristics

Land holding: The aggregated average own land holding of the sample households was about 2.03 ha while on average 0.65 ha of land were left for grazing (Table 2). The result implies that the study areas have relatively larger land size compared to that of the national average of land farmers in Ethiopia which is 1.2 ha (Essa, 2011).

Table 7. Farming characteristics and land distribution of sample households

Land allocation	Guto Gida (=47)		Ilu-Harar (N=33)		Ilu-Galan (N=30)		Total (N=110)	
	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev.	Mean	Std.dev
Own land (ha)	2.36	1.45	1.57	0.32	2.53	1.94	2.03	1.25
Cultivated land (ha)	2.04	0.99	1.00	0	1.07	0.25	1.03	0.16
Grazing land (ha)	0.32	0.46	0.09	0.26	0.91	0.91	0.41	0.65
Fallowing land (ha)	0	0	0.03	0.17	0.02	0.09	0.02	0.11
Forest land (ha)	0.04	0.22	0	0	0.08	0.26	0.04	0.20

Source: Survey result (2015)

Livestock Production: Given a mixed farming system in the study areas, livestock has considerable contribution for household income and food security. The results indicate that cows and oxen are the major important cattle in the study areas. Among others, oxen and bull are the major cattle used for fattening in all areas. Any cattle like oxen, bulls, heifers, cows also used for fattening in some farmers at Guto Gida and Ilu-Gelan study areas (Table 3 & 4).

Table 8. Households' livestock holding during survey period

Livestock	Guto Gida (=47)		Ilu-Harar (N=33)		Ilu-Galan (N=30)		Total (N=110)	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Cow	3.74	4.51	1.58	1.15	3.03	2.01	2.90	3.29
Oxen	2.47	2.91	1.76	3.49	3.01	2.01	2.44	2.90
Heifers	1.23	1.25	0.48	0.71	1.53	1.68	1.10	1.31
Bulls	1.15	1.46	1.15	1.25	0.90	0.99	0.36	0.85
Calves	1.66	1.90	0.52	0.76	1.63	1.71	1.29	1.66
Sheep	0.60	2.25	0.40	1.03	1.00	1.64	0.65	1.79
Goats	0.60	1.65	0.60	1.17	1.70	2.63	0.89	1.91
Donkeys	0.15	0.55	0.06	0.24	0.63	0.81	0.25	0.61
Mules	0.20	0.38	0	0	0.21	0.49	0.14	0.37
Poultry	6.00	6.40	3.76	4.91	7.70	5.90	5.83	6.01

Source: Survey result (2015)

Table 9. Sample households cattle used for fattening during survey period

Fattened cattle	Guto Gida (N=47)		Chewaka (N=33)		Ilu-Gelan (N=30)	
	N	Percent	N	Percent	N	Percent
Oxen	19	40.43	11	33.3	25	83.33
Bull	15	31.91	22	66.7	1	3.33
Any cattle	13	27.66	0	0	4	13.33

Source: Survey result (2015)

Cattle Feed and Feeding System for fattening

Small scale farmers in the study areas used different type of feeds to fatten their fattened cattle such as crop residue, hay, natural pasture (grass), purchased supplementary concentrates and combination of them. Accordingly, crop residue and grazing, crop residue and crop residue and hay are the major feeding system for cattle fattening in Guto Gida, Ilu-Harar and Ilu-Gelan, respectively (Table 5).

Table 10. Cattle feed and feeding system used by sample households during survey period

Feeding types	Guto Gida (N=47)		Ilu-Harar (N= 33)		Ilu-Gelan (N=30)	
	N	Percent	N	Percent	N	Percent
Crop residue	9	19.15	16	48.50	7	23.33
Crop residue and hay	12	25.53	10	30.30	11	36.67
Crop residue and grazing	21	44.68	2	6.00	4	13.33
Crop residue and concentrates	5	10.64	5	15.20	8	26.67

Source: Survey result (2015)

Results of Cattle Fattening Value Chain Analysis

Core Functions and Major Actors

The core functions in cattle fattening value chain of the study areas include: input supply, production, marketing, processing and consumption. These core functions are performed by different actors and the different activities performed by different actors details are described in figure 1.

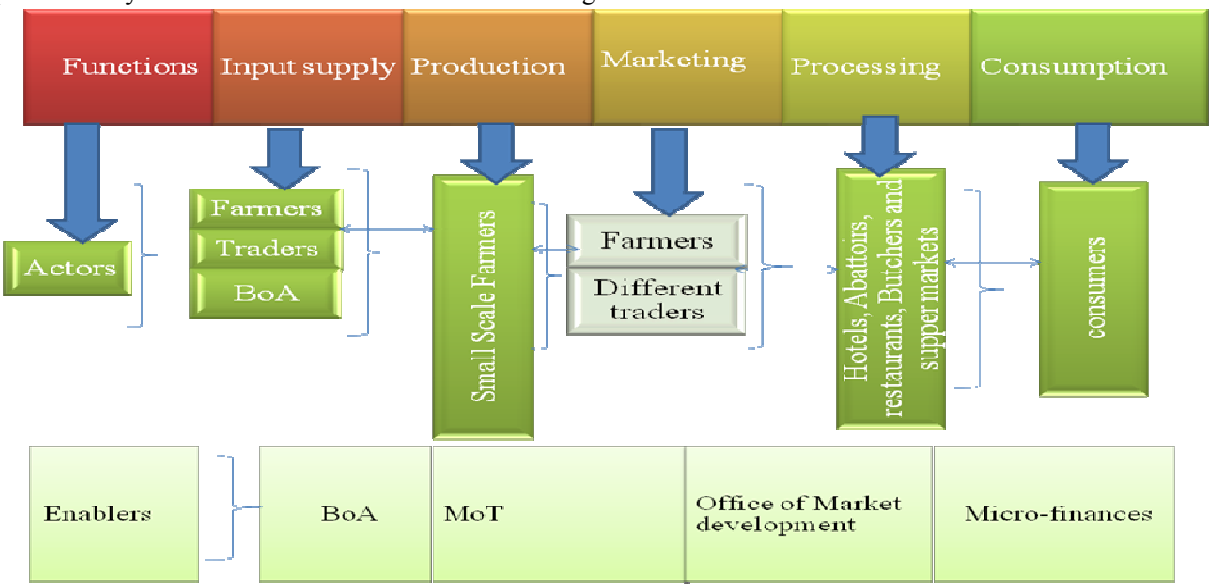

Figure 2. Value chain map of fattened cattle in the study areas

Input supply: In cattle fattening input supply includes feeder animals, feed supply, provision of veterinary services and improved husbandry skills (through training on feed and feeding management, housing management and animal health management). The feeder animals were provided by farmers whereas, veterinary services and training on husbandry management provided by districts livestock development and health agency and Bako Agricultural Research Center. The concentrated feed and some drugs were provided by private traders in respective study areas.

Production: In the study areas there are high potential for cattle fattening with integral part of the mixed crop-livestock system. Feeding system is almost entirely dependent on crop residue, hay and grazing of natural pasture. Both Ilu-Harar and Ukke areas had developed experience from eastern part of Oromia where their fattened cattle is kwon as ‘‘Harar *Bull*’’. Farmers fattened cattle for one or a combination of the following

reasons: income generation to buy agricultural inputs like fertilizer and improved seeds and to pay schools fees of their children and health services, to buy livestock reproduction and return stock and other social expenses.

Marketing: Marketing involves buying live animals starting from farm gate, transporting, and distributing through different channels to final destination. The destination of these live fattened cattle includes hotels and restaurants in all districts and zone towns in the study areas, butchers, consumers from local to Addis Ababa and live animal export. The purchasing and collection of live fattened cattle from small scale farmers is carried out mainly by traders in all market areas include collecting at farm gate. According to respondents more than 95% of fattened cattle were purchased by traders.

Meat of the fattened cattle and live animals are traded in all the study areas districts and zones as well as outside of the study zones and regional state but live fattened animals from Ilu-Harar and Ukke are also directly supplied to outside the country through Jigjiga to Djibouti finally to Arab countries. Majority of small scale farmers in the study area sell their fattened cattle in their village market found in their areas. Rarely, Guder market; which is the largest live livestock marketing in western central Ethiopia, was supplied by small scale farmers in the study areas.

Processing: In the case of our study; value chain of fattened cattle, the primary processing activities is done at abattoirs includes: de-hiding, quartering the whole carcass and transport to their customers (butchers, hotels and restaurants, supermarkets institutions). Butchers, supermarkets, hotels and restaurants process the meat in to different retail consumption food commodities.

Butchers are supplied meat from abattoirs of town's municipality in large towns like Nekemte but in small towns they slaughter the fattened cattle by themselves. But in Addis all butchers buy fattened cattle and give it to abattoir managed by city's municipality for slaughter and the abattoir check for TB, Cancer and some harmful bacteria then slaughter it and transport to customers. In Addis by eye observation deep red meat and clean are the major criteria to measure quality. Depending on these differences we can divide butchers of Addis in to two main classes:

- **Butcher Class I**: these are butchers' shop sell meat on retailing basis, raw meat ('*Kurt'*) and roasted meat product in the central part of the city. This central part of the city includes main roads and traditional restaurants on those main roads.
- **Butcher Class II:** these are butchers' shop sell meat on retailing basis, raw meat (Kurt) and roasted meat product in the outside the main roads, periphery and around (like Burrayu, Alem-Gena and other surrounding towns) part of the city.

Supermarkets are only found in Addis Ababa (consider only the value chain of fattened cattle for the study areas), even they are found in the central part of Addis; they sell raw and processed meat for consumption. They are supplied fattened cattle directly by buying and there are also supermarkets that get fattened cattle from their direct supplier depending on their prior relationship. Addis Ababa abattoir is the one that give slaughter service for these supermarkets.

Consumption: Beef consumers are domestic individual consumers who buy either processed meat from butchers and supermarkets or those who form groups and purchase live animals to slaughter and share the meat. The consumption function considered under this study is start from local consumption in study areas to the final consumers in Addis Ababa in different form of beef.

Marketing channels

Marketing channel is an organized network of different agencies and institutions which in combination perform all the activities required to link producers with consumers to accomplish the marketing tasks and only a small portion of goods and services is consumed at the point of production and only a small fraction of any output is purchased by the ultimate consumers directly from the final producers (Jaleta, 2011). Thus, marketing channel is a marketing process which performs several functions by bridging the gap between production and consumption and it is a systematic knowledge of the flow of goods or services from their production areas to the final market or end users. Marketing channels of fattened cattle study areas starts with the collection of fattened cattle from production areas moving on to the 'end markets' (Figure 2). The number and type of market participants are different along the different market channels.

In order to indicate the distribution of marketing costs and margins, some major market channels are identified. The different channels represent available outlets in the areas through which fattened cattle moves from different directions of the production areas to the 'end markets' and end users. Six major sheep marketing channels are identified in the area. These are;

Channel 1: Cattle slaughtered around the study areas butchers
Channel 2: Cattle slaughtered at Nekemte butchers
Channel 3: Cattle slaughtered around Guder butchers
Channel 4: Cattle slaughtered at Finfinne butchers and supermarkets comes directly from Ukke and Illu Harar

Channel 5: Cattle slaughtered at Finfinne butchers and supermarkets come through Guder market to Finfinne
Channel 6: Live cattle supplied to export market though Jigjiga

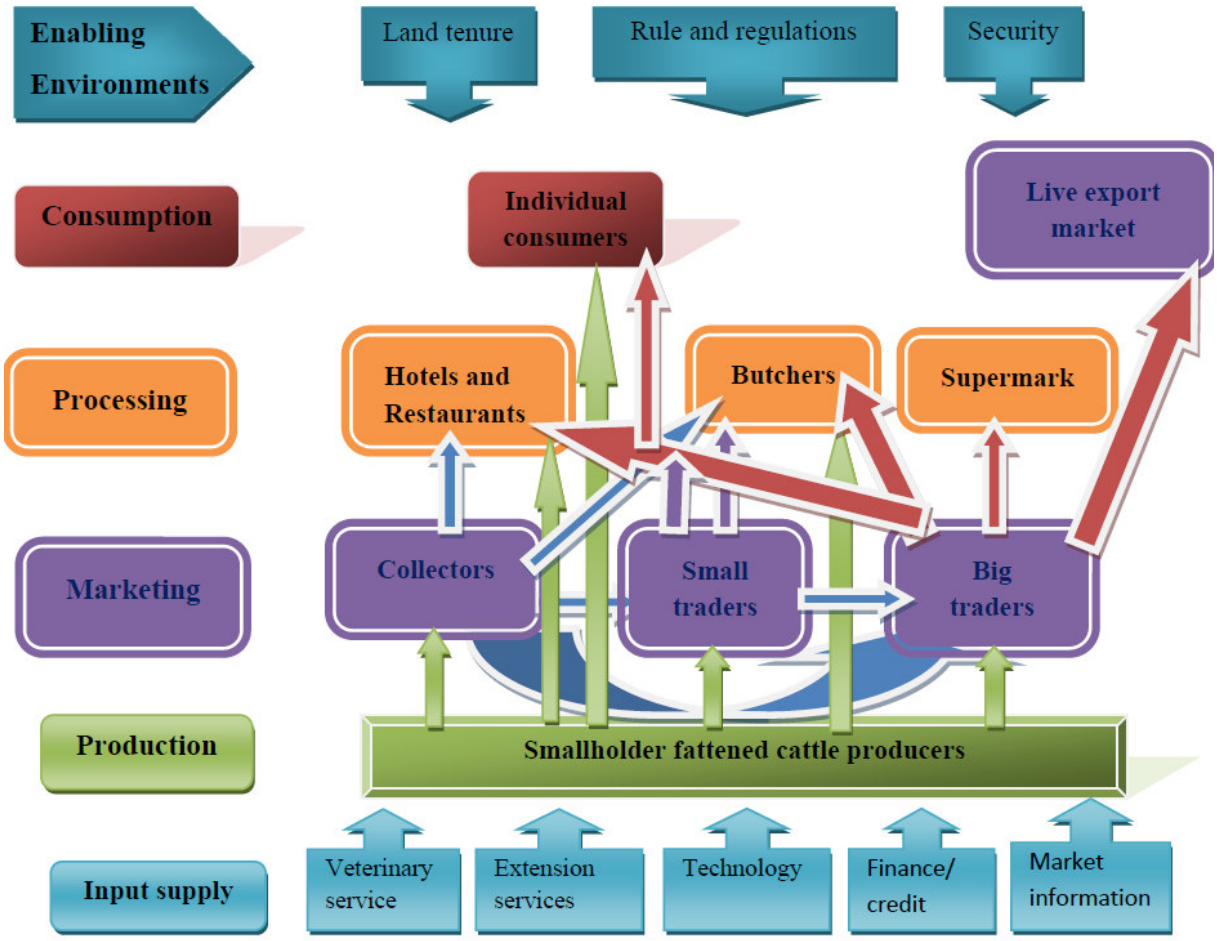

Figure 3. Fattened cattle value chain map in the study areas

Description of those identified six channels and their sub-channels

A. The channel which starts from small scale farm household producers in respective study areas and end at their local areas consumers (could be individuals, hotels and restaurants). This channel is the first channel identified in the study areas.
B. The second main channel is which start from Ukke and Chawaka areas fattened cattle and end at the hands of Nekemte town consumers. The consumers her are individuals, hotels, and restaurants and Wallega University.
C. The third main channel start from all small scale farm household producers (Illu Galan, Guto Gida and Chawaka districts) in the study areas to Guder live animals market (the biggest live animal market in Central western region).
D. The fourth main channel start from Ukke and Chawaka small scale farm household producers directly pass to Finfinne market and at Finfinne butchers and supermarkets are considered as retailers.
E. The fifth main channel stars from all small scale farm household producers in the study areas passes through Guder to Finfinne live animal market and at Finfinne butchers and supermarkets are considered as retailers.
F. The sixth main market channel starts from Ukke and Chawaka (both most commercialized in fattening cattle) directly to the export market by traders who supply these fattened cattle exporters. These areas of the study areas are populated by ‘‘Anniya’’ and ‘‘Afran Kalo’’ clan of Barentu Oromo’s inhabitants. These clan of Oromo societies are kwon for their ‘‘Harar Bull’’ in the Eastern part of Oromia and they are practicing what has been experienced by their clan in the Eastern part of Oromia her in these study areas.

The first main channel described under letter ‘A’ above of the study areas can be divided in to three sub channel depending on the origin and destination of the fattened cattle in these study areas. These sub channels are;

1. The first sub channel is the channel which starts from small scale farm household producers of Chawaka area to the local consumers in Chawaka district and around Arjo Gudatu town area in East Wallaga zone.
2. The second sub channel is the channel which starts from small scale farm household producers of Ukke area to local consumers of Ukke area.
3. The third sub channel is the channel which starts from small scale farm household producers of Illu Galan to the local areas in Illu Galan district.

Distribution of costs and margins

In the study areas marketing system of the fattened cattle is more complex; being the linkages among different stockholders and the numbers of these stockholders to move these live animals and beef to the final users are many in numbers. These different and many number of linkages in marketing of a commodities indicate that different services and value addition to the product in our case to the beef and live fattened cattle. Therefore, different assumptions were considered during the cost benefit analysis of fattened beef cattle. The first assumption is net marketing margins of the a particular marketing agent as an indicator of the efficiency of the channel, is defined as the residual of the gross marketing margin after paying marketing coast. The second assumption is marketing costs are composed of the total costs incurred in marketing of fattened cattle and/or beef by each agent in the value chain.

As the fattened cattle/beef are transferred trough different marketing agents/value chain actors, the marketing costs incurred in these value chains accumulate and finally determine the price in consumer markets and these facts are presented in annex tables at the end of this paper pages.

It is clear, from the annex table that as the actors in the value chain increases the profit share of the small scale farm household farm decreases. Additionally, as the value addition on fattened cattle increases the share of the small scale farm household farm decreases. The lowest profit share of the small scale farm household farm was observed in the channel where the fattened cattle were passing through Guder market to Finfinne supermarket. In this channel participants of the fattened cattle were more and the value adding activities were also more compared to other channels.

Constraints in the Fattened Cattle Value Chain

Input supply for fattening cattle production for producer farmers in the study areas consists of the supply of feeds, veterinary medicines, extension service and credit service.

Regarding production the major problems are disease and lack of grazing land about 84.6% where as lack of veterinary technician, lack of improved forage, lack of knowledge and experience, lack of extension services and lack of access credit are the major constraints for cattle fattening. Among the identified inputs at small scale farm household farm level lack of medicines and extension service and lack of improved forage are the more important constraints in the study areas (Table 6).

Table 11. Major problems of supplies cattle fattening identified in the study areas

Major constraints	N*	Frequency	Percent
Lack of medicines and extension service	110	33	30
Lack of improved feed	110	25	22.7
Unavailability of veterinary medicines	110	15	13.6
Farness of extension service on fattening	110	12	11
Weak extension service when need on fattening	110	11	10
Lack of knowledge and experience of farmers	110	8	7.3

N*=Number of participants, Source: Survey result (2015)

In case of market transportation, limited market information, lack of vertical and horizontal linkage of cattle value chain actors and seasonality of supply and demand of cattle are the major constraints. The vertical linkages are critical for moving a product or service to the end market where as the horizontal linkages are both formal and informal linkages between producers at level in value chain to reduce transaction costs. Moreover, vertical linkages facilitate the delivery of benefits and embedded services and the transfer of skills and information between firms up and down the chain. Demand is high during cultural and religious holydays and low at other times of the year. Meat processing is mainly performed by hotels, supermarket and butchers in the study areas and end market.

3.6. Opportunities

Government's commitment and support to increase export of meat; The government envisions earning 1 billion dollar per year from the export of beef and lives animals in the second growth and transformation plane. This plane of the government will make it to work closely with farm households, private actors and other stakeholders to rectify the market, logistics and transport problems in live animal, beef and other crucial export

items (MoFED, 2010). Moreover, the Regional Government of Oromia has also established the Livestock Development and Health Agency as a semi-authorized bureau in order to provide necessary support for the livestock subsector. Therefore, these all attention of federal and regional government is opportunities for the sectoral development of fattened cattle in the study areas as well as in the country as a whole.

Currently, abattoirs have started to process the by-products of fattened cattle to different commodities like dog food, chicken feeds, and different jewelry, soaps, nitrogen fertilizers and others. Such types of processing will increases income from fattened cattle. Therefore, since the income from fattened cattle increases it could be another opportunity to all value chain actors.

Additionally, the policy environment which includes policies like quality and standard assurance, good environment for the chain actor to work together for common benefits has been developed by the government of Ethiopian that could be seen as an opportunity for this sector. Even though, it is too late, the government of Ethiopia announced the 'Live Animals Marketing Proclamation No.819/2014' in the year of 2014 and the regulation cited as 'Live Animal Marketing Council of Regulation No.341/2015' aimed at putting in place a modern and efficient market structure that enables to supply live animals, competitive in quality and price, to domestic and export markets by developing efficient and cost effective live animals market structure supported by up-to-date information and yields proper benefit to live animal keepers, traders consumers and the country though the implementation didn't started yet.

Conclusion and Recommendations

Conclusion

This study was conducted to analysis value chain of cattle fattening in western Oromia. Value chain analysis studies on fattened cattle were conducted in order to map and characterize the fattened cattle value chain activities focusing on constraints and opportunities in the study areas. Ethiopia's livestock production system based on integration with crops production, level of input and intensity of production, agro-ecology and market orientation is categorized as pastoral, agro-pastoral, mixed crop-livestock farming, urban and peri-urban farming and specialized intensive farming systems. Despite the fact that Ethiopia is characterized by a high livestock population, its productivity is low, at least in terms of conventional products such as meat and milk and farmers received low benefit for their productive.

In this study, both purposive and a multi-stage random sampling procedure were adopted to select a sample of households that represented the population. The data were collected from both primary and secondary sources. The primary data were collected through household survey using a semi-structured questionnaire, key informant interview, focus group discussion and visual observation. Besides the primary data, secondary data from different sources were collected and organized. Data analysis was carried out using descriptive statistics and costs and margins analysis.

To enhance opportunities for value chain actors, there is need to understand the main value chain actors affecting the entire value chain. The main actors in the fattened value chain in the study areas are input suppliers, producers, brokers, traders, abattoirs, supermarket, hotels and restaurants, butchers and individual/institutional consumers.

Market channels in the study area can be categorized in to seven major channels and these channels can be decomposed to sub channels depending on study areas specific their start and destination. The core functions of fattened cattle in the study areas are input supply, production, marketing, processing and consumption by different individuals/institutions.

Therefore, we can said that small holder cattle value chain practices and linkages remain weak as compared to the anticipated potential because most of the factors necessary for a successful feedlot business in the study in their infancy. These include: inadequate improved feed and grazing land, disease problem, inadequate extension service on fattening cattle and unavailability of veterinary and drugs.

Recommendations

- The respective Government bodies should identify the beef sub-sector as a very important sector and take lead in its promotion. Development of international markets will go a long way in not only boosting beef production, but will also raise the standards and quality of the beef produced.
- A set of enabling constraints will deepen the impact of cattle fattening, including inadequate improved feed and grazing land, disease problem, very loose attachment between actors, inadequate extension and training on fattening, unavailability of veterinary and drugs, etc at every stage of the value chain must be prioritized.

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Annex 1.

Cost and margins of different channels identified in fattened cattle in the study areas.

Annex Table 1. Costs and margins of actors in first channel- sub channel 1.

	Producers	Brokers	Butchers
Selling price	6500	6530	9000
Marketing cost		0	200
Marketing margin		30	2470
Net margin		30	2270
Producer's share of final price (%)		99.54	72.22

Annex Table 2. Costs and margins of actors in first channel- sub channel 2.

	Producers	Brokers	Butchers
Selling price	6700	6730	9000
Marketing cost		0	230
Marketing margin		30	2270
Net margin		30	2040
Producer's share of final price (%)		99.55	74.44

Annex Table 3. Costs and margins of actors in first channel- sub channel 3.

	Producers	Brokers	Butchers
Selling price	7000	7040	9000
Marketing cost		0	200
Marketing margin		40	1960
Net margin		40	1760
Producer's share of final price (%)		99.43	77.78

Annex Table 4. Costs and margins of actors in second channel

	Producers	Brokers	Traders	Butchers
Selling price	6700	6750	9000	12500
Marketing cost		0	150	200
Marketing margin		50	2250	3500
Net margin		50	2100	3300
Producer's share of final price (%)		99.26	74.44	53.6

Annex Table 5. Costs and margins of actors in third channel

	Producers	Brokers	Traders	Brokers	Butchers
Selling price	6800	6850	9500	9550	13000
Marketing cost		0	580	0	200
Marketing margin		50	2650	50	3450
Net margin		50	2070	50	3250
Producer's share of final price (%)		99.27	71.58	71.20	52.31

Annex Table 6. Costs and margins of actors in fourth channel when butchers are retailers

	Producers	Brokers	Traders	Brokers	Butchers
Selling price	6700	6730	9000	9050	15000
Marketing cost		0	600	0	250
Marketing margin		30	2270	50	5950
Net margin		30	1670	50	5700
Producer's share of final price (%)		99.55	74.44	74.03	44.67

Annex Table 7. Costs and margins of actors in fourth channel when supermarkets are retailers

	Producers	Brokers	Traders	Brokers	Supermarket
Selling price	6700	6730	9000	9050	17500
Marketing cost		0	600	0	1000
Marketing margin		30	2270	50	8450
Net margin		30	1670	50	7450
Producer's share of final price (%)		99.55	74.44	74.03	38.29

Annex Table 8. Costs and margins of actors in fifth channel when butchers are retailers

	Producers	Brokers	Traders	Brokers	Traders	Brokers	Butchers
Selling price	6800	6850	9500	9550	12000	12050	15000
Marketing cost		0	580	0	200	0	250
Marketing margin		50	2650	50	2450	50	2950
Net margin		50	2070	50	2250	50	2700
Producer's share of final price (%)		99.27	71.58	71.20	56.67	56.43	45.33

Annex Table 9. Costs and margins of actors in fifth channel when supermarkets are retailers

	Producers	Brokers	Traders	Brokers	Traders	Brokers	Supermarket
Selling price	6800	6850	9500	9550	12000	12050	17500
Marketing cost		0	580	0	200	0	1000
Marketing margin		50	2650	50	2450	50	5450
Net margin		50	2070	50	2250	50	4450
Producer's share of final price (%)		99.27	71.58	71.20	56.67	56.43	38.88

Annex Table 10. Costs and margins of actors in sixth channel

	Producers	Brokers	Traders	Brokers	Exporters
Selling price	7000	7050	11000	11100	15000
Marketing cost		0	1300	0	2000
Marketing margin		50	4000	100	3900
Net margin		50	2700	100	1900
Producer's share of final price (%)		99.29	63.63	63.06	46.67