

## Analysis of Gender Roles in Beef Cattle Value Chain: In West Shewa Zone, Oromia National Regional State, Ethiopia

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### Abstract

*Gender is an important aspect of beef cattle value chain analysis since gender relations both affect and are affected by the ways in which the value chains function. Gender issues fundamentally shape the totality of production, distribution and consumption within an economy but have often been overlooked in value chain development. Thus, understanding gender relationships and adjusting methods and messages is crucial for the full participation and benefits of all the community. The study was aimed at analyzing Gender Roles in beef cattle value chain in Toke Kutaye and Bako Tibe Districts, West Shewa Zone, Oromia National Regional State, Ethiopia. Both qualitative and quantitative data were collected for the study. The data were collected from both primary and secondary sources. The primary data for this study were collected from 376 producers, 30 fatteners, 20 traders, 10 butchers, 12 hotels, 2 local abattoirs and 10 consumers; totally 460 respondents by using interview schedule, site visit and personal observation. Data analysis was made using descriptive and inferential statistics and gender analysis frameworks. The results of Harvard Analytical Framework showed that at the lower stage of beef cattle value chain there were contributions of all gender categories and the marketing activities of beef cattle value chain were dominated by men's role. Men have more access to and control of resources than women along the beef cattle value chain activities. But there is a probability that both men and women have almost equal benefit from resources along the beef cattle value chain. It was concluded that men, women, boys and girls participation in marketing, access to and control of resources are not equal in beef cattle value chain. Therefore, the recommendation was empowering women by improving their access to resources and services, control over the resources and gender mainstreaming in the value chain.*

**Keywords:** Value chain, beef cattle, gender roles

### Introduction

Gender is an important aspect of value chain analysis since gender relations both affect and are affected by the ways in which value chains function. Such gender analysis and integration of gender issues is usually however the weakest point in beef cattle value chain analyses and largely ignored in most value chains (IFAD 2010; Njuki et al., 2012). Gender issues fundamentally shape the totality of production, distribution and consumption within an economy but have often been overlooked in value chain development (Rubin, 2010). Most current value chain development has failed to

integrate gender analysis. Value chain development policies are often based on gender-blind or gender-discriminatory assumptions (Mayoux et al., 2008). Gender analysis is the process of analyzing information in order to ensure development benefits and resources are effectively and equitably targeted to all members of the society, and to successfully anticipate and avoid any negative impacts development interventions may have on gender relations (Overholt et al., 1985). Gender analysis in beef cattle value chain is essential to understand the relationships; participation of different actors, men and women; and the constraints that limit growth of

beef sector and the compositeness of smallholder farmers (IFAD, 2010).

According to Coles and Mitchell (2011), call attention to the crucial role of value chain analysis as a tool for addressing gender inequities in markets. Results from gender and value chain analyses have been used in the development sector to design market oriented interventions, gender inequalities and value chain upgrading strategies that are beneficial to smallholder farmers and the marginalized groups particularly women, in the developing countries (van den Berg et al., 2009; IFAD 2010). However, to the extent that the constraints and opportunities faced by the marginalized groups differ, the interventions are likely to be different for the different categories of smallholder farmers. Coles and Mitchell (2011) provide a comprehensive review of value chain studies that have addressed gender issues and suggested or implemented upgrading strategies to reduce inequalities.

Although value chain approaches is widely adopted as strategy for enhancing economic growth and reduction of poverty, few have considered how gender issues affect value chain (USAID, 2010). The knowledge among practitioners and policy makers on the gender aspects of value chain intervention are still limited (Riisgaard et al., 2010). Also it has been reported by Coles and Mitchell (2011) that little is known about gender in value chain and that there is insufficient evidence to make general statements about gender roles in different kinds of value chains. Previously, women who participated in livestock value chain were confined to lower levels of the chain and suffered more inequalities in the upper levels of the value chain where benefits are shared and distributed (Njarui et al., 2012). They also lacked the ability to make decisions regarding the use of proceeds from the chain activity venture. Therefore this study intends to disclose information concerning gender roles that exists in beef cattle value chain.

In beef cattle farming systems, there is a division of labor. This determines the different tasks for which men and women are

responsible. An existence of differences in the beef cattle farming activities by male and female signifies the importance of gender consideration in beef value chain. At present, in many societies, women's access to information and training in modern farming activities continues to be limited (FAO, 2005). Because of these, it is important to recognize that gender considerations in beef cattle value chain always need to take into account both men's and women's roles, access to and control of resources and benefits from the activities. Failure to consider these differences, between men and women, leads to unsuccessful project activities. Thus, understanding gender relationships and adjusting methods and messages is crucial for the full participation and benefits of all the community.

Therefore, also the study areas have a potential of beef cattle production and marketing due to its suitable climatic condition for the cattle and presence of main road connecting the markets in the area with the capital city of the country; gender roles access to and control of resources in the key stages of the beef cattle value chains has not yet been systematically studied and documented in the areas. Due to all these reasons, the analysis of gender in beef cattle value chain has been initiated to understand gender roles, access to and control over and benefits from resources in the value chain and recommend viable options to improve the gender equity and equality. At the end, the study makes an attempt to solve the information gap in the study areas.

## **Materials and methods**

### **Description of the study areas**

This study was conducted in two major livestock producing districts, namely Toke Kutaye and Bako Tibe Districts of West Shewa Zone, Oromia National Regional State, in central Ethiopia. Description of each district was given below.

Bako Tibe is one of the districts of West Showa zone, Oromia national regional state, Ethiopia. It is located at 250 km west of Addis Ababa,

125 km of Ambo, the capital city of west Showa zone and 81 km east of west Wollega. The district is bordered with the south, west and north by East Wollega zone and on the East by Ilu Galan district. The administrative center of the district is Bakko town. The district has three Agro-ecological zones, in which 12 % is high land (Dega), 37% is mid-land (Woinadega) and 51% is low land (Kolla) and the average rain fall is varies between 1000-1200 mm, with the average temperature of 13.2°C – 27°C. This district has 3 urban and 28 rural PAs. The total area of the district is 637.19 square kilometer. Total population of the district is 133,799, out of which 68,401 are male and 65,398 are female with population density of 210 people per Square Kilometer which is greater than the Zone average of 152.8.(CSA, 2010).

Toke Kutaye is one of the districts in the west shewa zone, Oromia Region of Ethiopia. Toke Kutaye is bordered on the east by the Ambo district, on the north by Mida kegn, on the west by Chalia. The administrative town of the district is Guder. The district located 12 kilometers west of Ambo town, at a distance of about 137 kilometers away from Addis Ababa on the Addis Ababa Nekemte main road. The 2007 national census reported a total population for this district of 119,999, of whom 59,798 were men and 60,201 were women; 15,952 or 13.29% of its population were urban dwellers. The majority of the inhabitants said they practiced Ethiopian Orthodox Christianity, with 49.48% of the population reporting they observed this belief, while 32.8% of the populations were Protestant, and 16.25% practiced traditional beliefs. The economic source of the district depends on agriculture and its produces. Agriculture accounted for more than 90% of the economy of the district.

### Sources of Data and Methods of Data Collection

Both primary and secondary sources of data were used for the study. Various publications and reviews (from internet), material studies, data from the National Statistics Agency, Ministry of Agriculture, district offices and other relevant sources were used as secondary

sources. Interview schedules, site visits, focus group discussion and structured observation methods of data collection and information obtained from different government and non-governmental organizations were used as primary sources. Both qualitative and quantitative data were collected for the study. The qualitative data was collected using Participatory research approach / key informant interview, site visits and structured observations and quantitative data was collected using interview schedules.

### Sampling Techniques and Sample Size Determination

Toke Kutaye and Bako Tibe districts were selected purposively based on the existing potential of cattle production, fattening practices and marketing of beef cattle in the districts. Toke Kutaye and Bako Tibe districts have 27 and 32 kebeles, respectively. With the consultation of districts' livestock experts, out of the potential kebeles from the districts, three kebeles from each district namely Naga File, Birbirsaf dogoma and Lenca from Toke Kutaye and Dembi Dima, Seden Kite and Bacara Oda Gibe from Bako Tibe district were selected randomly. A simple random sampling technique was used to select the required sample household producers from the kebeles.

The sample size for collecting data for the study was determined by using (Yamane, 1967) formula and the following formula was used to calculate total sample size (n) for households. The sample size for each kebeles was calculated proportionally.

$$n = \frac{N}{1+N(e)^2} = 376$$

Where,

n = designates the sample size the research uses (376);

N = designates total number of households (12634);

e = designates maximum variability or margin of error 5%;

l = designates the probability of the event occurring.

Table 1. Sample size of the study areas

Name of selected districts	Name of selected kebeles	Number of household producers in the kebeles	Sample of household producers in the kebeles
Toke	Naga File	1420	42
Kutaye	Birbirsaf dogoma	3430	104
	lencha	2160	64
Bako Tibe	Dembi Dima	1054	30
	Seden Kite	1820	54
	Bacara Oda Gibe	2750	82
Total	6	12634	376

Source: The districts' livestock and fishery development office, 2019

Additionally, other actors like fatteners from each kebeles (5), traders (10), butchers (5), local abattoir, hotels/restaurants (6) and consumers (5) involved in the beef cattle value chain from each district were included for the study. Therefore, Total sample size =  $376 + (5 \times 6) + (27 \times 2) = 376 + 30 + 54 = 460$

### Methods of Data Analysis

The collected data was analyzed using descriptive and inferential statistics, gender analysis frameworks.

### Descriptive and inferential analysis

Descriptive and inferential statistics such as mean, percentage, t-test and chi2-test were computed by using STATA software. During the data analysis that was dealt with analysis of gender roles in beef cattle value chain; simple descriptive statistics such as percentage and mean and inferential statistics such as t-test and chi2-test were employed by using STATA software and was presented in the form of tables and figures. This was used in the description of socio-economic and demographic characteristics of the respondents and test significance difference of variables between the districts, gender groups using appropriate techniques. Mean and t-test was used in continuous variables while percentage and chi2-test in categorical variables.

### Gender analysis frameworks

There are a number of different frameworks for undertaking gender analysis. They represent step-by-step tools for carrying out gender analysis, which assist in raising questions, analyzing information and developing strategies to increase women's and men's representation and participation in policies, projects and programmes. These frameworks have been developed to address different aspects of gender equality and are therefore useful for different policy priorities, programmes or projects.

The following are the best known gender analysis frameworks, which are often included as tools for gender mainstreaming and linked to gender planning frameworks and gender impact assessment frameworks. Some frameworks, such as the Harvard Analytical Framework, Levy framework, the capacities and vulnerabilities approach and the 4R method also address the questions of organizational change. To employ gender analysis along the core functions of the beef cattle value chain, such as gender roles and relations within the beef value chain, gendered access to and control of resources and benefits that accrue from use of these resources were analyzed by using Harvard analytical framework which is appropriate for this study.

The Harvard Analytical Framework, also called the Gender Roles Framework, was one of the first frameworks developed to identify and understand the differences between men and women in their participation in the economy. It is used to collect information from the community and from households. The Harvard Analytical Framework describes who does each activity, who has access to and control of resources and the influence on gender roles. To do this, the framework is made up of interrelated components such as: the 'activity' profile answers the question of 'Who does what?' for all relevant productive and reproductive tasks. The 'access' and 'control' profiles identify the resources used in the identified tasks; define by gender who has access to these resources and control over their use; and define the benefits that result from each activity and those who have access to and control over these benefits.

## Results and discussion

This section presents the major findings and interpretation of the study. It has two main sections. The first section deals with descriptive and inferential statistics of the sampled households. The second section presents gender roles and access to, control over and benefit from resources along the beef cattle value chain.

### Socio-Economic and Demographic Characteristics of the Respondents

#### Socio-Economic and Demographic Characteristics of the Sampled Household Producers

Socio-economic and demographic characteristics of the sampled household producers are given in the tables below (Table 2 & 3). Table 2 showed that the total mean age of the household head respondents was 42.59 years. The mean age of the respondents in Toke Kutaye district was 43.39 years and 41.59 in Bako Tibe district. Age of the respondents in the two districts has significance difference at less than 5% significance level. According to

Ulfina Galmessa., *et al* (2019), the overall average ages of the respondents in the studied households were 43 years which is almost similar with the present study.

The total mean of household size for the sampled household producers was 7.24. The mean household size of the respondents in Toke Kutaye and Bako Tibe districts was 7.78 and 6.55, respectively. Household size showed significance difference at less than 1% significance level in the two districts. The overall mean family size of the respondents in the studied households was 5.4 persons (Ulfina Galmessa., *et al* 2019). According to Belay *et al.* (2012), the average family size was 5.6 in Dendi district. Due to the fact that agricultural and other activities in the study areas are labors demanding, the average family size was high. The mean of total number of cattle owned by the household respondents in the year was 10.80. The mean of number of cattle owned by the household respondents in Toke Kutaye and Bako Tibe districts in the year was 9.37 & 12.61, respectively and there was a significance difference at less than 1% significance level in the two districts. The mean annual sampled household income in Toke Kutaye and Bako Tibe districts was ETB 64507.14 and 48775.30, respectively and the total mean annual income in the two districts was ETB 57561.70. Mean annual sampled household income in the two districts has significance difference at less than 1% significance level. The mean of total land owned of household respondents in the two districts was 2.25 hectares and there was significance difference at less than 1% significance level between the two districts. The mean number of beef cattle sold in the year of household respondents in Toke Kutaye and Bako Tibe districts was 1.58 and 1.90, respectively. The mean of total number of beef cattle sold in the year in both districts was 1.72 and has significance difference at less than 5% significance level.

Table 2. Socio-Economic and Demographic Characteristics of the sampled Household producers (Continuous variables)

Variables	Mean of household respondents in the districts				
	Toke (N = 210)	Kutaye	Bako Tibe (N = 166)	Total (N = 376)	T-value
Age of household head in years	43.39		41.59	42.59	2.13**
Household size in numbers	7.78		6.55	7.24	5.48***
Total number of cattle owned in numbers in the year	9.37		12.61	10.80	-6.85***
Total annual income in birr	64507.14		48775.30	57561.70	3.91***
Total land owned in hectares	2.73		1.64	2.25	8.53***
Grazing land owned in hectares	0.51		0.47	0.49	0.90
Cultivating land owned in hectares	2.22		1.17	1.76	10.37***
Total number of beef cattle sold in numbers in the year	1.58		1.90	1.72	-2.51**
Average selling price of beef cattle in the year in birr	11126.67		9793.97	10538.3	4.90***

\*\*\* = significant at p < 0.01 level, \*\* = significant at p < 0.05 level

Table 3 showed that about 93.62% of the sampled household respondents in the two districts was male headed while the remaining (6.38%) was female headed household. From this about 93.33% was male headed households and only 6.67% was female headed in Toke Kutaye district and 93.98% was male headed and 6.02% was female headed household in Bako Tibe district. Sex of household head has no significance difference between the two districts. Majority (55.59%) of sampled household heads' education level was primary school which is followed by secondary school (22.34%), illiterate (21.28%) and certificate (0.80%). Education level of household head has significance difference at less than 5% significance level in the two districts. Other study conducted in Dano and Dire Inchini of the same zone with the present study by (Ulfina Gelmesa *et al.*, 2019) reported that majority of

the respondents (41.0%) can read and write, others (29.2%) attended primary education and significant number (5.6%) also attended secondary education. The same table showed that 92.82% of the respondents were married and 7.18% of them were divorce and there was no significance difference between the two districts. Majority of the sampled household heads' religion were Protestant (49.73%) and Orthodox (36.97%) and the remaining were Wakefata (11.44%) and Muslim (1.86%). Religion of sampled household head has significance difference at less than 1% significance level in the two districts. According to Samuel (2007), almost 68% of the respondents were followers of Orthodox Christianity while the remaining 32% were Muslims, Protestants and others in Addis Ababa city.

Table 3. Demographic Characteristics of the sampled Household producers (Categorical variables)

Variables	Categories	Percentage of sampled household producers in the two districts						X <sup>2</sup> -value
		Toke Kutaye (N = 210 (55.85%))		Bako Tibe (N = 166 (44.15%))		Total (N = 376 (100%))		
		%	N	%	N	%	N	
Sex of household head	Men	93.33	196	93.98	156	93.62	352	0.06
	Women	6.67	14	6.02	10	6.38	24	
Education level of household head	Illiterate	24.29	51	17.47	29	21.28	80	9.05**
	Primary school	57.14	120	53.61	89	55.59	209	
	Secondary and preparatory school	18.57	39	27.11	45	22.34	84	
	Certificate/diploma and above	0.00	0	1.81	3	0.80	3	
Marital status of the respondents	Married	93.33	196	92.17	153	92.82	349	0.19
	Divorce	6.67	14	7.83	13	7.18	27	
Household head's religion	Protestant	39.52	83	62.65	104	49.73	187	33.64***
	Wakefata	13.33	28	9.04	15	11.44	43	
	Muslim	0.00	0	4.22	7	1.86	7	
	Orthodox	47.14	99	24.10	40	36.97	139	

\*\*\* = significant at p < 0.01 level, \*\* = significant at p < 0.05 level

### Demographic characteristics of other beef cattle value chain actor respondents

The Table (4) showed that about 91.67% of the other actor respondents in the two districts was male while the remaining (8.33%) was female respondents. From this about 90.48% was male respondents and only 9.52% was female in

Toke Kutaye district and 92.86% was male and 7.14% was female respondents in Bako Tibe district. Sex of respondents has no significance difference between the two districts. Majority (52.38%) of other actor respondents' education level was primary school which is followed by secondary and preparatory school (29.76%), degree and above (7.14%), illiterate (5.95%) and certificate/diploma (4.76%).



Table 4. Demographic Characteristics of other beef value chain actor respondents in the two districts (Categorical variables)

Variables	Categories	Percentage of other actor respondents in the districts						X <sup>2</sup> -value
		Toke Kutaye (N = 42 (50%))		Bako Tibe (N = 42 (50%))		Total (N = 84 (100%))		
		%	N	%	N	%	N	
Sex of respondents	Male	90.48	38	92.86	39	91.67	77	0.15
	Female	9.52	4	7.14	3	8.33	7	
Education level of the respondents	Illiterate	11.90	5	0.00	0	5.95	5	7.07
	Primary school	47.62	20	57.14	24	52.38	44	
	Secondary and preparatory school	28.57	12	30.95	13	29.76	25	
	Certificate/diploma	2.38	1	7.14	3	4.76	4	
	Degree and above	9.52	4	4.76	2	7.14	6	
Marital status of the respondents	Single	26.19	11	19.05	8	22.62	19	2.87
	Married	69.05	29	80.95	34	75	63	
	Divorce	4.76	2	0.00	0	2.38	2	
Respondents' religion	Protestant	40.48	17	50	21	45.24	38	11.68***
	Wakefata	21.43	9	0.00	0	10.71	9	
	Muslim	0.00	0	4.76	2	2.38	2	
	Orthodox	38.10	16	45.24	19	41.67	35	

\*\*\* = significant at p <= 1% level, \*\* = significant at p <= 5% level

Education level of other actor respondents has no significance difference in the two districts. The same table showed that majority (75%) of the respondents was married and about 22.62% and 2.38% of them were single and divorce, respectively. For the marital status of the other actor respondents there was no significance difference between the two districts. Also the results showed that majority of the other actor respondents' religion were Protestant (45.24%) and Orthodox (41.67%) and the remaining were Wakefata (10.71%) and Muslim (2.38%). Religion of other actor respondents has significance difference at less than 1% significance level in the two districts.

Demographic characteristics of other beef cattle value chain actor respondents along the value chain stages were described as (table 8) below. The results showed that all traders, local

abattoirs and butcher respondents were male, almost all (96.67%) fattener respondents were male and majority of hotels/restaurants (66.67%) and consumer (80%) respondents were male. In case of education level of other actor respondents along the value chain stages, majority of traders (90%), butchers (60%), hotel/restaurant respondents' education level was primary school. Majority (46.67%) of fattener respondents' education level was secondary and preparatory school and followed by primary school (40%) and illiterate (13.33%). Education level of local abattoir respondents' were certificate/diploma (50%) and degree and above (50%). About 40% of sampled consumers' education level was degree and above which is followed by certificate/diploma (30%) and primary & secondary school (30%).



Table 5. Demographic Characteristics of other beef value chain actor respondents along the value chain stages (Categorical variables)

Variables	Categories	Percentage of other actor respondents along the value chain stages						
		Trader (N=20)	Fattener (N=30)	Local abattoir (N=2)	Butcher (N=10)	Hotel/restaurant (N=12)	Consumer (N=10)	Total (N=84)
Sex of respondents	Male	100	96.67	100	100	66.67	80.00	91.67
	Female	0.00	3.33	0.00	0.00	33.33	20.00	8.33
Education level of the respondents	Illiterate	0.00	13.33	0.00	10.00	0.00	0.00	5.95
	Primary school	90.00	40.00	0.00	60.00	66.67	0.00	52.38
	Secondary and preparatory school	10.00	46.67	0.00	20.00	33.33	30.00	29.76
	Certificate/diploma	0.00	0.00	50.00	0.00	0.00	30.00	4.76
	Degree and above	0.00	0.00	50.00	10.00	0.00	40.00	7.14
Marital status of the respondents	Single	10.00	43.33	0.00	0.00	16.67	20.00	22.62
	Married	90.00	50.00	100	100	83.33	80.00	75.00
	Divorce	0.00	6.67	0.00	0.00	0.00	0.00	2.38
Respondents' religion	Protestant	45.00	53.33	50.00	40.00	33.33	40.00	45.24
	Wakefata	0.00	20.00	50.00	0.00	16.67	0.00	10.71
	Muslim	5.00	0.00	0.00	0.00	0.00	10.00	2.38
	Orthodox	50.00	26.67	0.00	60.00	50.00	50.00	41.67

### Gender roles along the beef cattle value chain

Gender roles are shared cultural expectations which are performed by individuals based on their society identified gender (William *et al.*, 2009). According to Rubin *et al.*, (2008) gender roles are behaviour tasks and responsibilities that are considered appropriate for women and men because of social, cultural, norms and beliefs. Culture, norms and beliefs of societies differ and this implies that no generalization can be made on gender roles. Roles played by men, women, boys and girls cannot be generalized across different societies of cattle

keepers. This means it is difficult to say this is the sole role of male and female along the beef cattle value chain. Because of that this study is focused on the major roles of gender along beef cattle value chain's major activities in the study areas.

The study results (table (6) showed about 63.30% of respondents responded that purchasing feed for beef cattle production and fattening was the major roles of men in the study areas. There is a significance variation at less than 1% significance level between Toke Kutaye and Bako Tibe districts on the purchasing feed activities. Regards to beef cattle feeding, majority of respondents

(37.50%) agreed on that there was a similar gender role and there is a significance difference at less than 1% significance level between the two districts on the feeding beef cattle. In Toke Kutaye district majority of the respondents (32.86%) said that feeding beef cattle was the major roles of men and in Bako Tibe district majority of them (37.35%) said it was the major roles of women. Majority of the respondents (77.6%) from Dano district reported that women are responsible for feed preparation and feeding as opposed to only 40% in Dire Inchini district (Ulfina Gelmessu *et al.*, 2019). About 60.90% of the respondents responded that keeping cattle/herding was the major roles of boys and there is no significance variation between the two districts. Watering cattle was also another major role of boys' activities. Abebe and Gamessa (2011) found that women were responsible for barn cleaning, milk selling and feeding. Njarui *et al.*, (2012) reported that women played their roles with the assistance of children in milking, feeding and watering of animals. Men's roles were taking care of sick animals, fodder collection and storage. In mixed crop livestock systems, livestock management practices were mainly carried out by women including feeding, cleaning, watering and milking (Zahra *et al.*, 2014) whereas men concentrate on a few roles involved in herd management, sale of animals, purchase of feed and sale of milk in intensified systems (Tangka *et al.* 2000). Herding was mainly done by men and boys (Zahra *et al.*, 2014). Girls assist in herding, especially of small ruminants (Tangka *et al.*, 2000).

About 81.38% of the respondents agreed on that constructing cattle house was the major roles of men, but majority (53.46%) of them said that cleaning of cattle house was the major roles of women and there is a significance variation at less than 10% and 1% significance level between the two districts on the constructing cattle house and cleaning of cattle house, respectively (table 6). Similarly, 90.8% of the

sample households from Dire Inchini and 88.2% sample households from Dano reported that construction of dairy cattle house was the mere responsibility of men (Ulfina Gelmessu *et al.*, 2019). This indicates that at the lower level activity (production activities) of beef cattle value chain, there were contributions of all gender categories (men, women, boys and girls) in the study areas.

(Table 6) showed that majority (78.19%, 88.56% and 87.50%) of the respondents responded that transport/trek cattle to the market, selling cattle and purchasing cattle were the major roles of men, respectively and there is no significance difference between the two districts on these activities. This means the marketing stage activities of beef cattle value chain was dominated by men's role in the study areas. Women who participated in livestock value chain were confined to lower levels of the chain and suffered more inequalities in the upper levels of the value chain where benefits are shared and distributed (Njarui *et al.*, 2012).

In case of processing stage of beef cattle value chain, almost all (87.50%) of the respondents responded that slaughtering beef cattle was the major roles of men, but majority (70%) of the respondents said that beef food preparation was the major roles of women and there is no significance difference between the two districts on slaughtering beef cattle and beef food preparation in the study areas.

#### **Gender control over resources in the value chain:**

The (table 8) below showed about 65.16% of the respondents responded that allocation of land use for grazing was more controlled/decided by men than women and there is no significant variation between the two districts on land use for grazing. The large proportion of land and large animals are owned by men (82.6%) while only (17.4%) owned by

women (Ulfina Gelmesssa *et al.*, 2019). From the same (table 8), it was possible to understand that purchasing inputs (purchasing feed and drugs) and the marketing activities of beef cattle (purchasing cattle, selling cattle and determining selling/buying price of cattle) were more controlled/decided by men than women and there is no significant difference between the two districts on the activities except purchasing of cattle. This showed that the resources and activities along the beef cattle value chain were more controlled /decided by men as compared with women. It means there are no equal gender control /decision making on resources along the beef cattle value chain in the study areas. According to Ulfina Gelmesssa *et al.*, (2019), from over all respondents about 85.5% of male are decides about selling of cattle and 15.5% of women decides about selling of cattle and 88.1% men decides about labor in put while women decides 11.9% about labor input and 35.1% of husband sell any animals without consulting his wife but he told her. This is because women are the main caretakers of household members (especially children and the aged) in most of the developing countries of the world. It appears that studies in Ethiopia on decision-making in livestock production, marketing and management of income from livestock are consistent. Men are largely the decision makers for livestock production (Mulema *et al.*, 2017), husbandry activities associated with better financial income (Mulugeta and Amsalu 2014), sale of livestock (marketing), collection of money (Hebo 2014), and spending the income earned from livestock (Zahra *et al.*, 2014). Women in many countries are constrained ownership or control of important resources due to cultural beliefs (Letty and Bayer, 2010).

Inequality in property rights contributes to women's generally low status and vulnerability to poverty compared with men. FAO (2012) reported that in many African traditions, women and their belongings including livestock that they may have received from their parents or purchased themselves are the property of men.

Table 6. Gender roles along the beef cattle value chain in the study areas

Major activities in beef cattle value chain	Districts and test	Percentage of respondents in the two districts				
		Major roles of:				
		Men	Women	Boys	Girls	Similar roles
Purchasing feed	Toke Kutaye	53.81	13.81	0.00	0.00	32.38
	Bako Tibe	75.30	6.02	2.41	0.00	16.27
	Total	63.30	10.37	1.06	0.00	25.27
	X <sup>2</sup> -value	26.77***				
Feeding	Toke Kutaye	32.86	16.67	4.76	0.00	45.71
	Bako Tibe	24.10	37.35	9.64	1.81	27.11
	Total	28.99	25.80	6.91	0.80	37.50
	X <sup>2</sup> -value	33.37***				
Keeping cattle/herding	Toke Kutaye	13.81	4.76	60.48	15.24	5.71
	Bako Tibe	18.07	2.41	61.45	16.87	1.20
	Total	15.69	3.72	60.90	15.96	3.72
	X <sup>2</sup> -value	7.68				
Constructing cattle house	Toke Kutaye	83.33	5.24	10.00	0.00	1.43
	Bako Tibe	78.92	3.61	17.47	0.00	0.00
	Total	81.38	4.52	13.30	0.00	0.80
	X <sup>2</sup> -value	7.02*				
Cleaning cattle house	Toke Kutaye	3.81	46.19	7.62	18.57	23.81
	Bako Tibe	7.83	62.65	3.01	21.69	4.82
	Total	5.59	53.46	5.59	19.95	15.43
	X <sup>2</sup> -value	33.03***				
Watering	Toke Kutaye	10.48	21.90	23.81	11.90	31.90
	Bako Tibe	18.67	24.10	39.76	6.02	11.45
	Total	14.10	22.87	30.85	9.31	22.87
	X <sup>2</sup> -value	32.67***				
Transport/trek cattle to the market	Toke Kutaye	80.48	4.29	15.24	0.00	0.00
	Bako Tibe	75.30	3.61	21.08	0.00	0.00
	Total	78.19	3.99	17.82	0.00	0.00
	X <sup>2</sup> -value	2.20				
Selling cattle	Toke Kutaye	90.00	8.57	0.00	0.00	1.43
	Bako Tibe	86.74	9.04	1.81	0.00	2.41
	Total	88.56	8.78	0.80	0.00	1.86
	X <sup>2</sup> -value	7.04				
Purchasing cattle	Toke Kutaye	86.19	9.52	0.00	0.00	4.29
	Bako Tibe	89.16	7.23	1.81	0.00	1.81
	Total	87.50	8.51	0.80	0.00	3.19
	X <sup>2</sup> -value	6.25				
Purchase drugs	Toke Kutaye	55.24	12.38	4.76	0.00	27.62
	Bako Tibe	62.05	10.84	4.22	0.00	22.89

	Total	58.24	11.70	4.52	0.00	25.53
	X <sup>2</sup> -value	1.80				
Milking cows	Toke Kutaye	2.38	87.14	0.00	10.48	0.00
	Bako Tibe	6.02	77.71	0.00	15.66	0.60
	Total	3.99	82.98	0.00	12.77	0.27
	X <sup>2</sup> -value	7.30*				
Slaughtering cattle	Toke Kutaye	85.00	0.00	15.00	0.00	0.00
	Bako Tibe	90.00	0.00	10.00	0.00	0.00
	Total	87.50	0.00	12.50	0.00	0.00
	X <sup>2</sup> -value	0.00				
Beef food preparation	Toke Kutaye	20.00	60.00	0.00	20.00	0.00
	Bako Tibe	0.00	80.00	0.00	20.00	0.00
	Total	10.00	70.00	0.00	20.00	0.00
	X <sup>2</sup> -value	1.14				
Beef food consumption	Toke Kutaye	65.00	15.00	15.00	5.00	0.00
	Bako Tibe	55.00	20.00	15.00	10.00	0.00
	Total	60.00	17.50	15.00	7.50	0.00
	X <sup>2</sup> -value	0.48				

\*\*\* = significant at p < 0.01 level, \*\* = significant at p < 0.05 level

Table 7. Gender access to services along the beef cattle value chain in the study areas

Major access to services in beef cattle value chain	Districts and test	Percentage of the respondents in the two districts		
		Men	Women	Both equal
Access to credit	Toke Kutaye	63.33	7.14	29.52
	Bako Tibe	73.49	2.41	24.10
	Total	67.82	5.05	27.13
	X <sup>2</sup> -value	6.53**		
Access to training	Toke Kutaye	66.67	3.33	30.00
	Bako Tibe	81.33	3.61	15.06
	Total	73.14	3.46	23.40
	X <sup>2</sup> -value	11.59***		
Contact extension agents /veterinary service provider	Toke Kutaye	83.81	12.38	3.81
	Bako Tibe	86.75	13.25	0.00
	Total	85.11	12.77	2.13
	X <sup>2</sup> -value	6.48**		
Access to market information	Toke Kutaye	78.57	1.90	19.52
	Bako Tibe	84.94	4.22	10.84
	Total	81.38	2.93	15.69
	X <sup>2</sup> -value	6.61**		

\*\*\* = significant at p 1% level, \*\* = significant at p 5% level

Table 8. Gender control over resources along the beef cattle value chain in the study areas

Major control over resources in beef cattle value chain	Districts and test	Percentage of the respondents in the two districts		
		<b>More control/decided by:</b>		
		Men	Women	Both equal
Land use for grazing	Toke Kutaye	62.38	8.10	29.52
	Bako Tibe	68.67	9.64	21.69
	Total	65.16	8.78	26.06
	X <sup>2</sup> -value	3.00		
Purchasing feed	Toke Kutaye	68.57	7.14	24.29
	Bako Tibe	59.04	10.84	30.12
	Total	64.36	8.78	26.86
	X <sup>2</sup> -value	3.93		
Purchasing drugs	Toke Kutaye	60.95	9.05	30.00
	Bako Tibe	57.83	12.65	29.52
	Total	59.57	10.64	29.79
	X <sup>2</sup> -value	1.29		
Purchasing cattle	Toke Kutaye	79.05	6.19	14.76
	Bako Tibe	87.95	6.02	6.02
	Total	82.98	6.12	10.90
	X <sup>2</sup> -value	7.38**		
Selling cattle	Toke Kutaye	84.76	6.19	9.05
	Bako Tibe	87.95	6.02	6.02
	Total	86.17	6.12	7.71
	X <sup>2</sup> -value	1.21		
Use of improved inputs	Toke Kutaye	58.57	7.14	34.29
	Bako Tibe	56.63	6.02	37.35
	Total	57.71	6.65	35.64
	X <sup>2</sup> -value	0.48		
Determining selling/buying price of cattle	Toke Kutaye	75.24	6.19	18.57
	Bako Tibe	75.30	6.02	18.67
	Total	75.27	6.12	18.62
	X <sup>2</sup> -value	0.01		

\*\*\* = significant at p  $\leq$  1% level, \*\* = significant at p  $\leq$  5% level

### Gender benefits from resources of the value chain:

The study results (table 9) showed about 50.80% of the respondents said that men were more benefit from income of cattle sold than women; about 42.02% of them said both equally benefit and the others (7.18%) said women were more benefit from the income. On

the income use from cattle sold, there is no significant difference between the two districts. In other case on the cattle products and by products' use, about 48.94% of the respondents responded that both men and women were equal benefit; about 46.54% of them responded that women were more benefit than men and less (4.52%) of them said that men were more benefit than women and there is no significant variation between the two districts on the cattle products and by products' use in the study



areas. These points showed that there is a probability that both men and women have almost equal benefit from resources along the beef cattle value chain in the areas. This may be the assumptions of if husband was benefited, wife also benefited simultaneously since they use the resources in the house together. Traditionally, women control income from sale of milk, cheese and butter (Zahra *et al.*, 2014; Kinati and Mulema 2016). However, when rearing of animals and their products becomes a more important source of family income, ownership and control turns to men (Zahra *et al.*, 2014). Good examples include cooperative-based milk marketing in Ethiopia (Hebo 2014; Birhanu *et al.*, 2016) where men take over the control of income from milk which traditionally fall under the domain of women. With commercialization of dairying, women may lose ‘control’ over cash incomes to men due to

the institutional requirements for household heads, who are mostly men, to register and collect payments from the delivery of milk to the Dairy Development Enterprises in Ethiopia (Tangka *et al.* 2002). This could bring about stresses on gender relations and family harmony resulting from the scramble to control income earned from selling of milk and livelihoods (Hebo 2014). As Coles and Mitchell (2011) highlight, gendered patterns of benefit distribution in the value chain does not always translate into gains to all individuals. In the same vein, non-participation in particular value chain does not equate to a lack of benefit. What matters is not simply the level of income derived from value chain activities, but a combination of factors related to the perception of ownership or management of a particular commodity, the scheduling of payment, and the point of entry into the chain.

Table 9. Gender benefits from the resources along the beef cattle value chain in the study areas

Major benefits in beef cattle value chain	Districts and test	Percentage of the respondents in the two districts		
		<b>More benefit for:</b>		
		Men	Women	<b>Both equal</b>
Income use from cattle sold	Toke Kutaye	49.52	8.10	42.38
	Bako Tibe	52.41	6.02	41.57
	Total	50.80	7.18	42.02
	X <sup>2</sup> -value	<b>0.72</b>		
Cattle products and by products’ use (milk, hide)	Toke Kutaye	2.86	40.00	57.14
	Bako Tibe	6.63	54.82	38.55
	Total	4.52	46.54	48.94
	X <sup>2</sup> -value	<b>13.83***</b>		

\*\*\* = significant at p ≤ 1% level, \*\* = significant at p ≤ 5% level

## Conclusions and recommendations

The overall conclusion from the results was that there is a variation of gender roles at different stages of beef cattle value chain in the study areas. At the lower level activity (production activities) of beef cattle value chain stage, there were contributions of all gender categories (men, women, boys and girls) and the marketing activities of beef cattle value chain was mostly dominated by men's role in the study areas. Additionally, men have more access to credit, training, market information and contact with service providers than women and there is no equal gender access to resources along the beef cattle value chain in the study areas. The resources and activities along the beef cattle value chain were more controlled /decided by men as compared with women. There is a probability that both men and women have almost equal benefit from resources along the beef cattle value chain in the areas. Therefore, based on this study; encouraging women participation in beef cattle marketing activities, access to training, credit and market information for women by improving the linkage between them and service provider institutions and empowering women on access to and control of resources along the beef cattle value chain are recommended

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