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Gender Based, Husbandry Practices, Challenges of Indigenous Dairy Production and Managements in Bambasi District, Benishangul Gumuz Regional State

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Abstract: *Ethiopia is one of the poor countries in the world with high illiterate rates. Illiteracy affects Women to a higher extent due to heavy household workloads, cultural influence, and lack of knowledge. In Benishangul gumuze regional state, women in the household spend a large part of their time on animal activities especially in the home area, most of which are consider culturally less important by women and girls. Moreover, in the region a vast area of arable land and livestock population, production of indigenous dairy cow is becoming decreased productivity and livestock death are enormous due to different insects and diseases and that affects the economy of farmers. The research design was Cross-sectional survey to employ and obtain the required information to meet the objectives of the study. Random and purposively sampling techniques was employing to select respondents of sample household survey, participants of focus group discussion and attendants of key informant interview respectively. Gender roles in the country also vary according to ethnicity, income, and status. Moreover, as has already mentioned, Ethiopian women are largely responsible for nearly all reproductive tasks such as fetching fuel wood and water, cooking, washing, cleaning and child care. The data sources were both primary and secondary data. To enable analysis of data collected through questionnaire, Statistical Package for Social Sciences (SPSS) software (version 20) was use. The mean family size of the respondents was 6.04. The mean and SDs of cattle holding per household was (8.38 ± 4.91). From the total (67.9 %) of respondents were having not owned grazing land for their dairy cows. (98.2%) respondents rear indigenous breeds. More than half of milk was use for family consumption. Milk is selling in the area through an informal market directly to retailer. This observed women traditionally take the majority of responsibilities and contribute more proportion of lobar and time than other members in the household. The results indicate disparities between men, women, boys and girls in their access to, ownership and control of the resource. Moreover, the findings show that access to training opportunities and extension services is reaching more men in households where the women are not participating. Technical strategies to support smallholder cattle production should focus on improving technical and institutional constraints by providing adequate veterinary services, improving fodder cultivation, proper crop residue management and improvement, supplying medicine equipment and medicines, adequate extension service, and improved water availability, and improving breeding systems.*

To ensure a reliable feed supply throughout the year, fodder conservation practices, especially hay and crop residues, should be encouraged.
Keywords; dairy: empowerment; extension service; gender role; lobar division

INTRODUCTION

The backbone of Ethiopia's economy like many other developing countries is the agricultural sector, which absorbs significant labor force out of which women make almost half. It is document in many literatures that, Ethiopian rural women play a significant role in crop and livestock production in addition to their reproductive and community roles. Gender roles in the country also vary according to ethnicity, income, and status. Moreover, as has already mentioned, Ethiopian women are largely responsible for nearly all reproductive tasks such as fetching fuel wood and water, cooking, washing, cleaning and child care. Gender division of labor in rural Ethiopia varies in terms of farming systems, cultural settings, location and the different wealth categories (Abera, *et al.* 2006; Mollel, and Mtenga, 2000).

They are commonly responsible, along with their children, for taking care of small livestock, production and marketing of butter, cheese, and vegetables. They also engage in non-farm income activities such as petty trading, beer brewing and leatherwork. Ethiopian rural women are not only resource poor as compared to their men counterparts but also stricken with time poverty (Torkelssona and Tassew 2008; Zahra *et al*. 2014). They spend a significant portion of their time on livestock-related activities, particularly carried out around the homestead, that are mainly regarded as women's and girls' tasks and culturally less valued (Kinati and Mulema, 2016).

The low recognition of roles of men, women, boys and girls in the production system is among the factors for poor development of the sector. Although societies divide these activities to sexes differ from one culture to another and from time to time, a gender division of labor exists in all societies. Because, gender roles in agricultural activities were different from place to place due to cultural, socio-economic, type of activities, institutional and other factors (Dereje, 2013; Hussien, 2014; Leulsegged *et al.,* 2015). Gender relations in Ethiopia are highly unequal. Women's access to productive resources tends to be controlled by their husbands. It is often argued that, women's lack of independent status and their exclusion from leadership are embedding in the socio-culture of the society. Moreover, (Flintan, 2006), argued that gender inequality is not only a result of culture and tradition, but also a direct result of planned economic and social change, which is founded on wrong assumptions about gender roles.

In Ethiopia, evidence has shown that control over of productive resources, including livestock particularly large animals, tends to be centralized into the hands of the household head even if owned jointly, be it a man or a woman, irrespective of ownership at or after marriage (Fafchamps and Quisumbing, 2002). Even if women may independently own small animals such as sheep and

goats, men have more control over income from sale of these animals (Mulema *et al*. 2016). The right to sell livestock and the management of the income from livestock sale predominantly falls in the hands of the household head (Fafchamps and Quisumbing, 2002).

Traditionally, women control income from sale of milk, cheese and butter and in some cases including small animals such as sheep, goats and chicken (Zahra *et al*. 2014; Kinati and Mulema 2016). However, when the rearing of these 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.

Objectives of the research:

The key objective of this paper is, to explore practices of indigenous dairy production and management in the study area; to analyze gender roles in indigenous dairy production and management in the study area; and to investigate gender-based challenges faced by indigenous dairy producing smallholder farming households;

Theoretical framework of the study

This research is grounded in a theoretical framework that examines the role of rural women in dairy management and production. The paper's central thesis is that Ethiopian rural women are overworked due to the productive domestic and community work they perform at the home and community levels.

Gender roles more conceptualized to use either the Harvard analytical framework (Overholt *et al.* 1985) analyze social roles for Women empowerment or Long We Framework (Long We 1991). The Harvard Analytical Framework sets out firstly, to make an economic case for allocating resources to household, and secondly, to assist planners to design more efficient projects. It is most useful for projects are agricultural or rural based, it is also useful to explore the twin facts of productive and socially reproductive work, especially with groups that have limited experience of analyzing differences between men and women. The framework is design as a grid (or matrix) for collecting data at the micro level. It has interrelated components: Harvard Tool 1: The Activity Profile, Tool 2: Access and Control Profile – Resources and Benefits, Tool 3: Influencing Factors. The Women's Empowerment framework analysis Long We Framework (Long We 1991) aims to assist planner's question what women's equality and empowerment means in practice and to what extent a development intervention is supporting empowerment. Women's empowerment is enabling women to take an equal place with men, and to participate equally with men in the development process in order to achieve control over the factors of production on an equal basis with men. The Long We framework introduces the concept of five levels of equality by which to assess the level of women's empowerment in any area of economic and social development.

MATERIALS AND METHODS

Description of the study area

BenishangulGumuz is one of the nine regional states of Ethiopia. It is located in the western part of the country between 09.170 - 12.060 North latitude and 34.100 - 37.040 East longitude (Kinde, 2012). Bambasi is among the seven districts in Assosa zone of the region. It is located at a distance of 610 Km from Addis Ababa. According to the CSA (2013), the total population of the district projected to be 66,306, of which 33,578 were males and 32,728 were females.

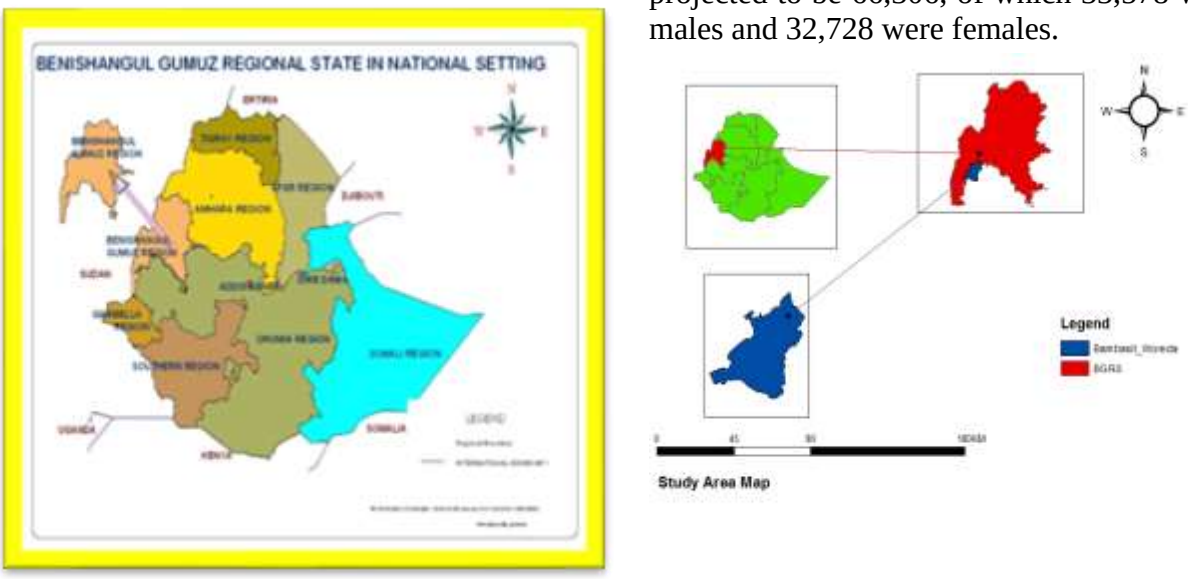

*Figure **4**: Map of study area Source: - developed by GIS, (researcher) 2021*

Research design

The research design was Cross-sectional survey to employ and obtain the required information to meet the objectives of the study. Different data collection techniques were used at a time. These techniques were household survey, focus group discussion, questionnaire interview of key informants and personal observation. Purposively sampling techniques was employing to select the district and the sample village *kebeles*. Random sampling techniques were used to select respondents of sample household survey, participants of focus group discussion and attendants of key informant interview respectively. This study was followed both qualitative and quantitative method of data collection approaches was combined. They focus on collecting, analyzing, and mixing both quantitative and qualitative data in a single study.

Sampling Methods and Procedures

A mixture of purposive sampling technique and simple random sampling technique was use in the analysis. The district and the two rural local villages were select based on for market advantages

accessibility, livestock population, farming activities, and milk production and closest to town. Therefore, to assess gender based, role in the issues of practice of indigenous dairy production management, challenge and opportunities in the study area. Respondents were select from the two rural local villages with the aid of the simple random sampling. After determining the sample size proportional to their size for each rural local village, the different number of samples was taking from both study areas.

Sampling Procedure

A three-stage (multi-stage) sampling technique was used to determine both the sample size of the villages and the sample size of the respondents in order to conduct the analysis in a representative manner and to improve its accuracy and validity.

1. In the first stage: -This district was select based on purpose; for market advantages accessibility, livestock population, farming activities and milk production and closest to town.

2. In the second stage: - The sample *kebele's* were selected in accordance with their gender of potential practice of dairy production and management related to the potential of indigenous dairy production in villages.

- In this scenario, two local villages, namely: Sonka and Keshmando (Bambasi district Animals & Livestock Office Report, 2013 EC) was selected.

3. In the third stage: -Sample respondents were selected using proportion to sample size of respondents.

The sample frames for selected villages were prepared, the desired sample size numbers were determined, and the sample was systematically select using the methods of sampling proportional method. The sample size is determined by the proposed by Yamane (1967) shown below.

The data sources were both primary and secondary data. Using pre-tested standardized interview schedule, KI, observations and group discussions, the primary information was on the practice of indigenous dairy cow production, management, challenges and opportunities from respondents and from the district livestock office. Secondary information was collected from various documents and publications. During the collection of primary data, triangulations of different methods were used to ensure the reliability and validity of the collected data.

Pictures of during data collection, 2021, at study areas

Pictures of women and men Focus Group Discussions in Sonka kebele, 2021

Methods of Data Analysis

Both quantitative and qualitative, data methods were use to achieve the stated specific objectives of this study. Based on the objectives of the study, appropriate methods of data analysis such as descriptive statistics were use. Descriptive statistics such us frequency, percentage, mean, standard deviation, chi-square and t-test were used and the result of the study was summarized by tables, figure and charts to draw conclusions.

Collected quantitative data was analyze and interpreted using descriptive statistics (percentage, frequencies, mean, and standard deviation chi-square and t-test). Accordingly, data obtained from respondents relating to demographic and socio-economic characteristics, gender role in dairy production management & practices, gender issues and women empowerment data was analyzed by using descriptive statistics like frequency, percentage, mean and standard deviation by using

SPSS version 20, utilized and the data was summarized and presented by tables and chart. The other collected data was qualitative data were analyzed by using thematic analysis to triangulate the qualitative data to achieve the stated specific objectives of this study. The summary of the analyzed qualitative data was present in pair-wise matrix ranking chart (Gender Issues in dairy production and management practices) and tables.

RESULT AND DISCUSSION

Characteristics of Respondents

Sex of households and marital status

Accordingly, from 122 samples of household interviewed (62.5%) were male head and 37.5% (42) were female. This indicated that male head was dominantly found in the study area.In the study area, (1.8%) of respondents were single, (9.8%) were widow and (14.3 %) respondents were divorced, while (74.1%) households were married. This difference is due to the nature of household structure, which is similar to most parts of the country especially in the study rural area was marriage early due to people give low attention for education, believes that girls wealth creation, harsh climate condition, access and control resources, this more reflected indigenous peoples of in Sonka *kebele*. According to the respondents, in the male household headed male represent household, while women represent their households in case when their husband dies or when they are divorced.

When comparing studies kebeles selected from the population as a sample from the keshmando kebele, the findings indicate that more male respondents (73.9 %) were interested. In Sonka kebele, female respondents dominated male respondents (55.8 %). Women's comments during the FGD discussion in Keshmando kebele were very similar to the results because women in the kebele are not involved in any community-related issue in area.

Education Level of the households

Regarding to educational status among the sample respondents (30.4%) were elementary school, (7.1%) high school, (0.9%) diploma, (22.3%) non-formal school and (39.3%) no educated in the sample area. Generally, the educational level attained by the majority of the household heads was low, which fall between elementary, and illiteracy. As reported (Asaminew, T. and S. Eyassu, 2009) the low level of education of household can have a negative effect on the development of dairy sectors. This is evidence by the low-level use of dairy innovation such as artificial insemination, cultivation of improved forages and access to manage cattle health, practice of record keeping in the current study area.

Table 1: Demographic Profile of Respondent (Source field data, 2021)

variables	Categories	Respondents	
		N	**%**
Sex	Male	70	62.5
	Female	42	37.5
Marital Status	Single	2	1.8
	Married	83	74.1
	Windowed	11	9.8
	Divorced	16	14.3

Respondents Family size

The mean family size of the respondents was 6.04 which is agreement with the finding of (Belay *et al.* 2012) which is reported a mean family size per households to be six, (6 persons/HH) and (Bereda *et a*, 2014), (Bereda, A., Z. Yilma and A. Nurfeta, 2014) who reported average family size of 6 (six). The large family size is an opportunity for increase or improves the product and productivity of dairy production with respect to labor provision in dairy cows herding, feeding, and watering; overall management of dairy product milking processing, marketing. Having many children or family size has thought as an asset for farming activities and being large in number in household has social prestige showing the strength of the family. In the study area, Male married more than one wife is one of the wealth indictors and it taken as a culture and interims of religion especially in *Berta* ethnic group of *Sonka kebele* of the study area. Similarly, study by (Tonamo *et al*, 2015) in *Essera* district indicate that having many wives is one of the indicators and commonly practiced type of marriage.

Table 2: Comparison of Family size between Sonka and Keshmando kebele

Variables	Kebeles	N	Mean	SD	Min	Max	sig.
Family size of the respondent	Keshmando	69	5.38	1.628	3	9	.001
	Sonka	43	7.12	3.500	3	19	
	Total	112	6.04	2.642	3	19	

Source: Field survey 2021

The Sonka kebele is show more familiar than Keshmando and the number of children in the Sonka community has increased since there are two women in one household. The community still believes that having a large family is important. For the intermission of women's culture and religions, contraceptives are still not allowable. Since children are seen as a valuable resource.

Age of households

The mean age of the respondent in the study district was 46.5, the maximum is 78, and the minimum is 25. The majority of the respondents were young and middle age. These are people who are energetic and in their prime age and if well supported can contribute on the economy of the household and the country.

Socio-economic Characteristics

Land size of households

According to the respondent during survey, the majority of grazing use communal grazing lands for their dairy cows this practice was own disadvantage on disease transmission and there is no grazing system (grazing rotation methods) huge number of cattle were graze. The other challenges raised by respondents during survey was communal grazing lands were decrease in size and in grass species due to increment of population, expanding of residence, illegal land grabbing for crop production.

Table 3: land size in the study area

Variables	N	Minimum	Maximum	Mean	SD
Grazing Land-hectares	36	.25	1.50	.6597	.27486
Crop Land-hectares	112	.25	10.00	2.8288	1.84729
Total Farm Size/land holding	112	.25	11.5	3.0383	1.90191

Source -field data, 2021

Dairy cattle holding of households

Cattle are the most important species of livestock in the study area for instances cattle use for milking, meat, breeding, fattening for sale (cash income), for farming activities and manure production in the district. The mean and SDs of cattle holding per household was (8.38 ± 4.91), minimum 2, and maximum 20.

The report was lower than both that of (Ayantu, *et al*,2012) in Horro district and (Shiferaw,2007) in Fentale district of Oromia region, which were 14.7 $\pm$ 0.55 and 12.2, respectively. In the study area, due to the area were harsh environment, high disease infestation especially, Tryponomiasis and pasteriollosis disease, shortage of grazing land, increase population the land was shared for residences and for agricultural purpose, variation in family size, economy of the household for those reasons number of dairy cattle reduce. Therefore, due to those factors the numbers of cattle were reducing when compare to others in the study area.

Out of this (1.8%) was cross breed and (98.2%) were pure local breed. Majority of the respondents in the study area were rearing pure local breed the reason is due to, low accessibility of improved breed and lack of awareness on improved breed and lack of artificial insemination service. This result indicates that in the study area, local breed was dominants; it indicates that dairy product and productivity were low. Therefore, in study area dairy improved technology as if (AI) artificial insemination service accessibility will be needing focus and improve dairy extension service. This much lower than the 17.0 average cattle head /households reported by (Demissu *et al*, 2103) for Guduru district respectively, in Western Ethiopia. On the contrary the per household cattle holding of the current study was higher than the report from Shashemene-Dilla area of Southern Ethiopia

which reported in crop mixed system average herd size of household was 3.8 ± 0.42 (Yigerem *et al*., 2008). The variation in cattle herd size per households in different parts of the country at different district might be due to the difference in per household land holding, variation in family size, population, economy of the household, variation in function of cattle, both grazing lands and accessibility of dairy sector extension service.

Source of Dairy Cow and Experience on Dairy

The findings revealed that the majority of (94.6 %) dairy keepers' respondents were starting the rearing of dairy cows by purchasing by yourself and (5.4%) were start dairy production by giving from family or from relatives. According to the survey result, and FGDs, majority of the respondents start rearing by its efforts, this indicates that there is no donation from governments and NGOs. However, some respondents earn money from credit and saving institution after establish the farm for expansion of dairy cows for production; oxen for farm activity and for fattening purpose for additional income. The respondent's experiences on dairy farming were ranged from 2 to 45 years with the mean of SD experience of 21± 10 years.

Gender roles in indigenous dairy production and management

Gender based, role issue in reproductive activities profile

Table 4: Gender division of labor regarding Reproductive activities profile, **(*Harvard Analytical Framework- tool – 1)***

SN	Reproductive, activities profile	Men	Women	Boy	Girl
1	Food preparation	*	*****	*	***
2	Fuel Wood collection	*	****	***	*
3	Fetching water	*	****	*	***
4	Sick family members to clinic	****	****	*	*
5	Milk processing	*	*****	*	*
6	House clearing	*	****	*	***
7	Market related	***	****	*	*
8	Taking grain to mills & grinding grains	***	****	*	*
9	Fence construction	*****	*	****	*
10	House and environmental sanitation/cleaning	****	****	*	*
11	House building	*****	*	***	*
12	Purchasing food items and additives	*	*****	*	*

(Source field data, 2021)

Note: *fully involved***** most often involved**** Sometimes involved*** rarely involved** Not involved**

Reproductive activities profile of gender-based division of labor at home and around home were includes, food preparation, fuel wood collection, fetching water, sick family members to clinic, milk processing, house clearing, market related, taking grain to mills & grinding grains, house and environmental sanitation/cleaning and purchasing food items and additives. According to the

results, show that, women take the majority of responsibilities, contribute more proportion of lobar, and time than other members in the household. All gender contributed at least some role in most activities. However, there was disparity in level of labor contribution between men, women, boys and girls. The contribution of boys and girls were low contribution in the mentioned reproductive activities because they needed to attend their school during weekdays and they were only available during weekends. According to the focus group discussion and from the results men were mainly responsible for outside the home. In rural Ethiopia, women play key role in both livestock management and household activities besides farming activities. They are the household managers but their works is considered as non-productive, unorganized, and undocumented (Bishop-Sambrook, 2004).

Gender based, role issues in Productive activities profile regarding practices of dairy production and Management

*Table 5: Gender division of labor, Productive activities profile in dairy production and managements (Harvard Analytical **Framework- tool – 2)***

SN	Major dairy production Activities	Men	Women	Boy	Girl
1	Herd guarding/grazing	****	*	***	*
2	Feeding & watering	*	*	****	*
3	Barn/ shade construction	*****	*	****	*
4	Barn cleaning /Manure collection	****	****	*	*
5	Milking	*	*****	*	*
6	Milking equipment cleaning	*	*****	*	*
7	Milk processing	*	*****	*	*
8	Cut & carry Supplement feeds for dairy	****	*	****	*
9	Milk & milk product selling	*	*****	*	*
10	Live animal selling & purchasing	*****	*	*	*
11	Taking sick animal to clinic	****	***	*	*
12	Giving pregnant cows	*****	*	*	*

(Source field data, 202)

Note: *5. fully involved, ***** 4. Most often involved, **** 3. Sometimes involved*** 2. Rarely involved** 1. Not involved**

According to the findings, milk and milk product-related behaviors were mostly demonstrate by women. In addition, men were more supportive of dairy production practices outside the home barn or in the shade of dairy cows, herding, collecting supplemental feeds, selling/purchasing livestock, sick animal management, and pregnant and giving birth dairy cows. Although there is no girl participation in this practice of dairy production and management at family level. During FGDs, male and women group participants reported it; the support of husbands to their wives in household activities is showing progress; even if not satisfactory, the family's age is growing, and it is difficult to feed this young man with such low energy. Although more things are purchased, agricultural production and livestock product yields are decreasing.

The parents' listed young men and women do not appear to be able to assist the family during their vacations. Food, water, and medical care are all necessities for cattle breeders; all activities need human power including agriculture. Therefore, it is difficult to live if not everyone works together as a team. Food self-sufficiency is difficult; it is linked with poverty; so, the answer is for the Creator to reconsider; the government and local governments; it is all about delivering collective training and consultation.

Gender based access, control, owner of dairy and dairy products

Table 6: Access, control resources & ownership over dairy production & their products (Harvard Analytical framework tool)

SN	Major dairy production Activities	Men	Women	Boy	Girl
1	Access to sale milk	*	*****	*	*
2	Control of income from sale of milk	*	*****	*	*
3	Access to sale butter	*	*****	*	*
4	Control of income from butter	*	*****	*	*
5	Access to sale cattle	*****	*	*	*
6	Control of income from sale of cattle	****	****	*	*
7	Access to purchase cattle	*****	*	*	*
8	Ownership of cattle	****	****	*	*
9	Ownership of land	****	****	*	*
10	Control land	*****	****	*	*
11	Access to drink milk	****	****	****	****
12	Access to rent land	*****	*	*	*
13	Control of income from rented land	*****	*	*	*
14	Access to Credit (banks, micro enterprise	*****	*****	*	*
15	Control from Credit (bank, micro enterprise	*	*****	*	*
16	Access to training in dairy production	*****	*	*	*

(Source field data, 2021)

Note;*5 = Full access and control***** *4 = Intermediate access and control*****

*3 = some access and control*** 2= Limited access and control** 1= no access and control**

Table 24: Show results on access, control and animal ownership. The results indicate disparities between men, women, boys and girls in their access to, ownership and control of the animal. However, women did take into account the access to and regulation of dairy products that means milk and milk products. The access to sales and purchase of animals and the access to rent land, access of training in dairy production also related to male. According to the findings of a focus group discussion with participants, changes in household food security and nutrition are associated with women's access to and control of income from dairy and dairy production, as well as their role in household spending decisions. This is because women spend a considerably higher proportion of their income on food for the family than men do. Men are more access to training and extension service in the study area. While, women limited to access of training and extension service opportunities. Moreover, the findings show that access to training opportunities and

extension services is reaching more men in households where the women are not participating in such dairy farming training. As a result, women should be needing special consideration in terms of training and extension service in the study area.

Factors that affect to implement access & control, benefit, ownership and lobar division in dairy farming activities in household level.

Figure 18: show that factors influencing the implementation of access, power, ownership, and gander lobar division in dairy production activities at the household level in the study area were cultural influences account for (41.1 %), norms for (45.5 %), and a lack of knowledge/awareness for (13.4 %).

Women Empowerment on dairy production and management

Women Empowerment level

Table 7: practice of dairy production and management sectors indicate of women empowerment level in terms of equality (Long we level of equality)

	Level of Empowerments	Level of Equality	Yes	No
Regarding dairy production sectors women empowerments interims of equality on dairy resource	Women have equal access to resources, of dairy products	Welfare	83.9 % (94)	16.1 % (18)
	Women's access to the factors of production on an equal basis with men; equal access to land, labor, credit, training, marketing facilities, and all public services and benefits regarding dairy.	Access	51.8 % (58)	48.2 % (54)
	Also involves a belief that the sexual division of labor division should be fair and agreeable to both sides, equal regarding practice of dairy production and management.	Conscientizations	36.6 % (41)	63.4 % (71)
	Women equal participation in the decision-making process, in policy-making and planning.	Participation	22.3 % (25)	77.7 % (87)
	Equality of control means a balance of control between men and women dairy products.	Control	35.7 % (40)	64.3 % (72)

Source- field data, 2021

The probability of specific development programs supporting equality and women's empowerment can be assessing using equality levels. Using Long We level of equality it becomes apparent that focus of dairy production and management is on welfare level of equality (83.9%), women have equal access to resources dairy products and access level of equality (51.8%), women's access to the factors of production on an equal basis with men; equal access to land, labor, credit, training, marketing facilities and all public services and benefits regarding dairy.

Due to this increasing women's self-confidence and their ability to engage in decision-making processes utilize, access and control, as well as to use and monitor resources on the farm. The acceptance of the objective low selected survey respondents was Conscientizations, Participation, and Control. Whereas, Conscientizations level of equality (36.6%), that means due to, also

involves a belief that the sexual division of labor division should be fair and agreeable to both sides, equal regarding practice of dairy production and management. Regarding this the respondents was giving response against the objective. Participation level of equality (23.3%) respondents also give response against participation means there is no Women equal participation in the decision-making process, in policy-making and planning in the study area. Control level of equality (35.7%) this level of equality also no equality of control means a balance of control between men and women overall in dairy products.

Challenges of dairy production and management

Table 27: Major challenges of practice indigenous dairy production and managements in the study area (Pair-wise matrix ranking)

Challenges	Diseases & parasite	Feed shortage	lack of AI service	Water shortage	Shortage of	Shortage of	Market related	Lack of credit	Shortage of land	cost of drugs	**Scores**	**Ranks**
Diseases & parasite	0	D& P	D & P	D & P	D & P	D & P	D & P	D & P	D & P	D & P	**9**	**1**
Feed shortage		0	F Sh	W Sh	F Sh	F Sh	F. Sh	F Sh	F. Sh	F Sh	**7**	**3**
lack of AI service			0	W. Sh	Sh. Ex	Sh. Vet	M. Prob.	L.Cr	Sh. L	H C	**0**	**10**
Water shortage				0	W Sh	W Sh	W Sh	W Sh	W. Sh	W Sh	**8**	**2**
Shortage of ext. services					0	Vet	Sh. Extn	LC	Sh. L.	HC	**2**	**8**
Shortage of vet. service						0	Sh. Vet	Sh. Vet	Sh. L	Vet	**5**	**5**
Market related problem							0	LC	Sh. L	H C	**1**	**9**
Lack of credit								0	Sh. L	HC	**3**	**7**
Shortage of land									0	Sh. L	**6**	**4**
Cost of drugs										0	**4**	**6**

Source- field data, 2021

CONCLUSIONS

The following conclusions were inwards at based on the major findings of the study.

Accordingly, assess indigenous dairy production management practiced by rural villages of selected household of the study area. Therefore, as the research result indicated above, most of indigenous dairy production management like housing system, feed and watering system, health managements, breeding practice, extension services, milk and milk product marketing system are the main indigenous dairy production and management practices were practiced by selected rural villages were assessed in the results.

Regarding gender roles issues in indigenous dairy production and management in study area Reproductive activities profile of gender-based division of labor at home and around home were includes, food preparation, fuel wood collection, fetching water, sick family members to clinic, milk processing, house clearing, market related, taking grain to mills & grinding grains, house and environmental sanitation/cleaning and purchasing food items and additives. According to the results, show that, women take the majority of responsibilities, contribute more proportion of lobar, and time than other members in the household. All gender contributed at least some role in most activities.

Productive activities profile of gender-based division of labor were includes, Herd guarding/grazing Feeding & watering Milking, Milking equipment cleaning, Cut & carry Supplement feeds for dairy, Milk & milk product selling, barn or in the shade of dairy cows, herding, collecting supplemental feeds, selling/purchasing livestock, sick animal management, and pregnant and giving birth dairy cows. According to the findings, milk and milk product-related behaviors were mostly demonstrate by women. In addition, men were more supportive of dairy production practices outside the home barn or in the shade of dairy cows, herding, collecting supplemental feeds, selling/purchasing livestock, sick animal management, and pregnant and giving birth dairy cows. Although there is no girl participation in this practice of dairy production and management at family level.

According to the results, show that, women take the majority of responsibilities, contribute more proportion of lobar, and time than other members in the household. However, there was disparity in level of labor contribution between men, women, boys and girls. The contribution of boys and girls were low contribution in the mentioned reproductive activities because they needed to attend their school during weekdays and they were only available during weekends. According to the focus group discussion and from the results men were mainly responsible for outside the home.

Gender based Access, control resources & ownership over dairy production & their products. The results indicate disparities between men, women, boys and girls in their access to, ownership and control of the animal. However, women did take into account the access to and regulation of dairy products that means milk and milk products. The access to sales and purchase of animals and the access to rent land, access of training in dairy production also related to male. This is because women spend a considerably higher proportion of their income on food for the family than men do. Men are more access to training and extension service in the study area. While women limited to access of training opportunity and extension service in the study kebele's. According to the findings of a focus group discussion with participants, changes in household food security and nutrition are associated with women's access to and control of income from dairy and dairy production, as well as their role in household spending decisions. Regarding to their challenges of indigenous dairy production and management was: Diseases and parasites were the biggest

obstacles to dairy production in the area ranked first, water shortage was ranked second, feed shortage ranked third, and shortage of lands were ranked fourth.
From the fact points of view, quantitative and qualitative shortage of feed and fodder affects the performance of milking animals, through under feeding animals in general; in particular, it affects milk production negatively. The cause for shortage of feed may be because most farmers had small grazing land for animals; this was also true most natural pastures areas are converting to crop production. The other constraints that the respondents ranked were less access of land shortages that can hinder dairy development in the area.

Recommendations

Based on the above conclusion, the following recommendations are forwarded:
Technical strategies to support rural smallholder cattle producers should focus on improving the farmer's traditional knowledge has and provide new working structure. To reduce the feed challenges especially in dry period farmers should be, informed or trained how to prepare and make feed conservation practices, especially hay and crop residues. It is critical to provide training to farming communities in order to develop their knowledge and skills in the management of dairy animals and the production of quality milk.

Men in the family were low participation in dairy production and management should be discouraged, as this will reduce the burden on women while also increasing production, sustainability, and, finally, household income. Farmers should be conserving the environments and manage water source, by locally administration in villages cultural methods.

The government, development partners should identify and support women's roles as livestock owners, processors, and consumers of livestock products, while also strengthening their decision-making power and capabilities. These are the critical elements in promoting economic and social empowerment of women and, as a result, providing a way for rural women to break the poverty cycle.

Gender empowerment and gender mainstreaming policies should always be more effective and strengthened in order to ensure the long-term development of women smallholder farmers. To encourage dairy producers in the study areas, smallholders should be provide /support with credit facilities, technology for milk processing and market accessibility, improved market knowledge, and the establishment of youth milk marketing cooperatives. It is necessary to establish and build a marketing connection between the producer and the consumer of milk products. The researchers must advise all dairy industry stakeholders to encourage gender equality and empower women in order to meet the Millennium Development Goals. Rapid urbanization, extensive population growth, and changes in the living standards of the communities in the study area provide an opportunity for the production of dairy in the area as a source of income as a highly demanded

product and highly profitable sector with access to animal health, AI, extension, and training centers.

Competing Interests

Authors have declared that no competing interests exist.

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