

Research Article

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

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Abstract

The research was carried out in the Benishangul-gumuz region in Assosa zone in the Bambasi district. The study's design was a cross-sectional survey to gather the necessary data to meet its goals, and it used both primary and secondary data sources. Random and purposively sampling techniques were used to select respondents for the sample household survey, focus group discussion participants, and key informant interview attendees, respectively. The Statistical Package for Social Sciences (SPSS) software (version 20) was used to analyze the data collected through the questionnaire. Women of the in the study areas give a significant amount of their time to animal activities, particularly in the home area. Furthermore, in the region, a wide amount of arable land and livestock population, production of dairy cattle is becoming decreased productivity, and animal death are enormous due to different insects and diseases, which is impact on the food security and livelihoods of smallholder's farmers. Gender roles in the country differ based on ethnicity, income, and status. The average family size among the respondents was 6.04. The average and standard deviation of livestock holding per household was 8.38 ± 4.91 . of the total, 67.9% of responders did not own grazing land for their dairy cows. (98.2% of responders raise indigenous breeds. More than half of the milk was used for family consumption. Milk is sold directly to retailers in the area through an informal market chain. According to this observation, women typically undertake the majority of duties and devote a larger percentage of their time and labor than other family members. The findings show differences in the resource's ownership, control, and accessibility between men, women, boys, and girls. Furthermore, the findings reveal that more men are receiving training and extension services in households where women are medium participating. Enhancing technical and institutional barriers through the provision of sufficient veterinary care, better fodder production, appropriate crop residue management and improvement, provision of medical equipment and medications, sufficient extension services, increased water availability, and improved breeding systems should need strategies to support smallholder cattle production.

Keywords

Dairy, Empowerment, Extension Service, Gender Role, Lobar Division

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1. Introduction

Ethiopia's economy, like that of many other developing countries, is based on agriculture, which employs a sizable labor force, about half of which are women. Many studies show that Ethiopian rural women have an important part in agriculture and animal production, in addition to their reproductive and community responsibilities. Gender roles in the country differ based on ethnicity, income, and status. Furthermore, as previously stated, Ethiopian women are primarily responsible for almost all reproductive duties, including gathering fuel wood and water, cooking, washing, cleaning, and child care. Gender division of work in rural Ethiopia varies according to farming techniques, cultural settings, location, and wealth categories [1]. Despite the fact that how civilizations split these activities between the sexes varies from country to culture and occasionally, all societies have a gender division of labor. Because gender roles in agricultural activities varied depending on the location due to a variety of institutional, cultural, socio-economic, and activity-related factors [2-4]. Traditionally, women control income from sale of milk, cheese and butter and in some cases including small animals such as sheep, goats and

chicken, However, when the rearing of these animals and their products becomes a more important source of family income, ownership and control turns to men [5].

1.1. Objectives of the Study

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;

1.2. Theoretical Framework of the Study

The theoretical framework that supports this study looks at how rural women manage and produce dairy products. The main argument of the research is that Ethiopian rural women are overworked as a result of their productive communal and household activities.

Gender roles are better understood using the Long We Framework [6]. Or the Harvard analytical framework [7], which examines societal roles for women's empowerment.

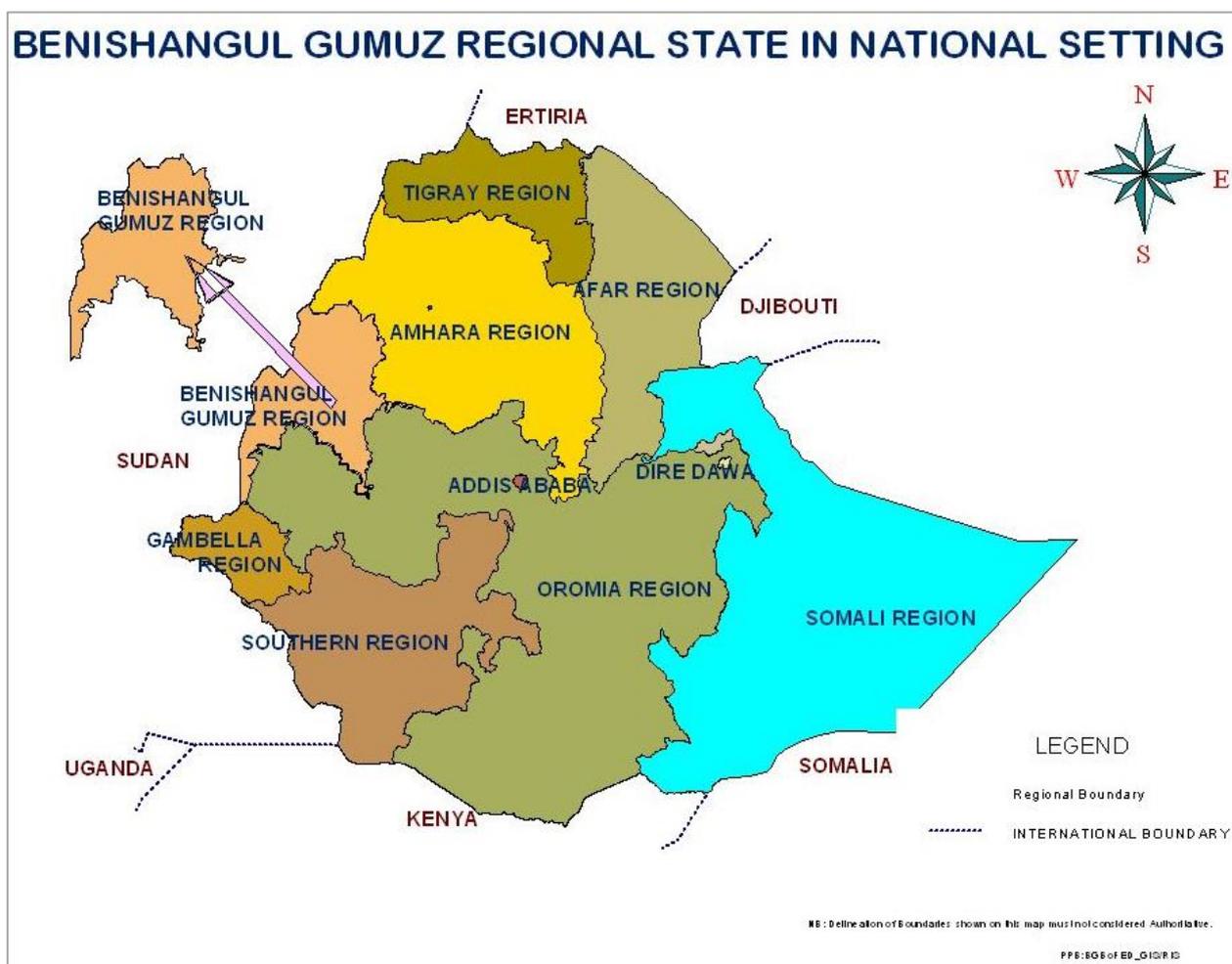


Figure 1. Map of the region: - developed by GIS, (researcher) 2021.

The Harvard Analytical Framework aims to create an economic justification for allocating resources to households and, secondly, to aid planners in designing more efficient projects. It is most useful for agricultural or rural projects, but it can also be used to investigate the dual realities of productive and socially reproductive activity, particularly with groups that have limited experience evaluating gender inequalities.

For the purpose of gathering data at the micro level, the framework is designed as a grid (or matrix). Its components are interconnected: Harvard First Tool: Activity Profile Tool 2: Profile for Access and Control: Advantages and Resources Influential Factors is the third tool.

Analysis of the women's empowerment framework The goal of the Long We Framework [6] is to help developers consider the practical definitions of women's equality and empowerment as well as the degree to which a development intervention promotes empowerment. Women's empowerment means enabling women to occupy an equal place alongside men and participate equally in the development process in order to gain equal control over production variables. The Long We framework introduces the concept of five levels of equality for assessing women's empowerment in all areas of economic and social development.

2. Materials and Methods

2.1. Description of the Study Area

Benishangul Gumuz is one of Ethiopia's nine regional states. It is located between latitudes 09.170 and 12.060 North and longitudes 34.100 and 37.040 East in the western part of the country. Bambasi is one of the seven districts in the region of Assosa zone. The distance between it and Addis Ababa is 610 kilometers. The area was expected to have 66,306 residents overall, with 33,578 men and 32,728 women, according to the (district unpublished report).

2.2. Research Design

Cross-sectional surveys were used in the research design in order to gather the data needed to fulfill the study's goals. Various methods of gathering data were applied simultaneously. These methods included focus groups, questionnaire interviews with key informants, home surveys, and in-person observation. The district and the sample village kebeles were chosen using purposive sampling procedures.



Figure 2. Data collection at study areas, 2021.

2.3. Sampling Methods and Procedures

The analysis included a combination of purposive sampling and basic random sampling techniques. Based on structures including market advantages, livestock population, farming activities, milk production, and proximity to the town, the

district and the two rural local villages were chosen. Simple random sampling was used to choose respondents from the two nearby rural villages. Once the sample size for each rural local community has been established in proportion to its size.



Figure 3. Focus group discussion with men and women, 2021.

2.4. Methods of Data Analysis

Both quantitative and qualitative, data methods were used 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 used. Descriptive statistics such as 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 analyzed 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.

3. Result and Discussion

3.1. Characteristics of Respondents

Based on the result, male heads made up 62.5% of the 122

home samples that were interviewed, while female heads made up 37.5% (42). While 74.1 percent of households in the research region were married, 1.8% of respondents were single, 9.8% were widowed, and 14.3% were divorced. Comparing research kebeles chosen from the population as a sample from the Keshmando Kebele, the majority of respondents (73.9%) were male. In contrast, Sonka kebele had a higher percentage of female respondents than male respondents (55.8%).

Of the sample respondents, 30.4% had completed elementary school, 7.1 percent had completed high school, 0.9% had earned a diploma, and 61.6 percent had not attended any formal school.

Family education can negatively impact the growth of the dairy industry, as most family heads have a poor degree of education. The low-level usage of dairy innovation, such as artificial insemination, the production of better fodder and access to control cow health, and the practice of record keeping in the current study area, serve as evidence of this [8]. The mean age of the respondents was 46.5, with a maximum of 78 and a low of 25. The majority of the responders were young and middle-aged. These are people who are energetic as well as prime age, and if appropriately supported, can contribute to the home and national economies.

According to survey respondents, most dairy cows graze on communal grazing fields, which poses a risk of disease transmission. Due to the lack of a grazing system (grazing rotation techniques), a large number of animals were grazing. Respondents also mentioned that illegal land grabbing for crop production, and residential expansion had caused communal grazing pastures to decrease in size and grass species.

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
	Widowed	11	9.8
	Divorced	16	14.3

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

Variables	Kebeles	N	Mean	SD	Min	Max	sig.
Family size of the	Keshmando	69	5.38	1.628	3	9	.001

Variables	Kebeles	N	Mean	SD	Min	Max	sig.
respondent	Sonka	43	7.12	3.500	3	19	
	Total	112	6.04	2.642	3	19	

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

3.2. Dairy Cattle Holding of Households

The most significant livestock species in the study area are cattle, which are used for farming operations, for manure production, milk production, breeding purpose, and fattening for sale (cash income). The average number of cattle per family was 8.38 ± 4.91 , with a minimum of two and maximum twenty. The report was below that of [9], in the Fentale district of the Oromia region and [10] in Horro district, which were $14.7 + 0.55$ and 12.2 , respectively. 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 relatives. 98.2% pure native breeds and 1.8% crossbreeds. The majority of respondents in the research area were raising more native breeds since better breeds were hard to get, people were unaware of them, and there was no artificial insemination service available. According to this result, local breeds predominated in the study area, which suggests that produc-

tivity and dairy products were poor.

3.3. Gender Roles in Indigenous Dairy Production and Management

3.3.1. Gender Based, Role Issue in Reproductive Activities Profile

The profile of gender-based division of labor in reproductive activities at home and in the neighborhood included food preparation, gathering fuel wood, fetching water, taking sick family members to the clinic, processing milk, cleaning the house, market-related tasks, transporting grain to mills and grinding it, cleaning and sanitation of the house and surroundings, and buying food items and additives. The findings indicate that women handle the majority of household duties and contribute a larger percentage of their time and labor than other family members. Nonetheless, the amount of labor contributed by men, women, boys, and girls varied.

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	*****	*	*****	*

SN	Reproductive, activities profile	Men	Women	Boy	Girl
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*

3.3.2. Gender Based Access, Control, Owner of Dairy and Dairy Products

Results on animal ownership, control, and access are displayed in Table 5. The findings show differences in access to, ownership of, and control over the animal between males, women, boys, and girls. Women did, however, consider the

availability and control of dairy products, which includes milk and milk byproducts. Males also had access to training in dairy production, land rental, and the ability to buy and sell animals. Women's access to and control over dairy income and production, as well as their influence over household spending decisions, are linked to household livelihood and nutrition.

Table 5. 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*

3.4. Factors That Affect to Implement Access & Control, Benefit, Ownership and Lobar Division in Dairy Farming Activities in Household Level

Among the factors affecting the application of ownership, power, access, and gender lobar division in dairy production ac-

tivities at the household level in the study area were norms (45.5%), cultural influences (41.1%), and ignorance (13.4%).

3.5. Women Empowerment on Dairy Production and Management

Women Empowerment level.

Table 6. 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 empowerment interim 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

3.6. Challenges of Dairy Production and Management

Table 7. 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 extension services	Shortage of veterinary service	Market related problem	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

4. Conclusions

Thus, the majority of indigenous dairy production and management practices, such as housing systems, feed and watering systems, health management, breeding practices, extension services, and milk and milk product marketing systems, are the primary indigenous dairy production and management practices was assessed in the selected rural villages and household's level. The findings indicate that women undertake the majority of household duties and devote a larger percentage of their time and labor than other family members. Every gender played a part in the majority of the activities. The findings show differences in access to, ownership of, and control over the animal between males, women, boys, and girls. Women did, however, consider the availability and control of dairy products, which includes milk and milk products. Males also had access to land rental, and the ability to buy and sell animals. The largest challenges to dairy production in the study areas were diseases and parasites, which came in first, followed by a lack of water, feed, and land, which came in second, third, and fourth, respectively.

5. Recommendations

Enhancing farmers' traditional expertise and offering new working structures should be the main goals of technical solutions to assist smallholder cattle producers in rural areas. Farmers should get information or training on how to prepare and implement feed conservation methods, particularly with regard to hay and crop residues, in order to lessen feed difficulties, particularly during dry periods. In addition to enhancing women's decision-making the government and development partners should recognize and encourage women's roles. These are the essential components for encouraging women's economic and social empowerment and, consequently, making it possible for rural women to end the cycle of poverty. The long-term growth of women smallholder farmers should always be ensured by strengthening and increasing the effectiveness of gender mainstreaming and empowerment initiatives. Credit facilities, technology for milk processing and market accessibility, better market awareness, and the create milk marketing cooperatives and promote dairy producers in the study areas. To achieve the Millennium Development Goals, the government and non-governmental organizations have to advise every stakeholder involved in the dairy business to promote gender equality and women's empowerment. Since dairy is an extremely popular commodity and a highly profitable industry with access to animal health, artificial intelligence, extension, and training facilities, the rapid urbanization, population growth, and changes in community living standards present an opportunity for the production of dairy as a source of income.

Abbreviations

HHs	Householder's
GDP	Gross Domestic Product
KM	Kilometer
FGD	Focus Group Discussion
SPSS	Statistical Package for the Social Sciences

Author Contributions

The authors contribution on the research proposal writing, questionnaire development, data collection, analysis and writing the results.

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Conflicts of Interest

The authors declare no conflicts of interest.

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