ANALYSIS OF GENDER ENGAGEMENT IN DAIRY FARMING IN BHUTAN

DEKI CHODEN[1*], DHAN BDR RAI[1], NAR BDR TAMANG[1], DORJI[1]

[1]National Dairy Development Centre, Yusipang

*Author for correspondence: dekic@moal.gov.bt

ABSTRACT: The availability of adequate sex-disaggregated and gender-specific data in the farming sector plays a crucial role in making informed policy decisions, promoting increased farm output, enhancing rural income, and improving the overall well-being of families and communities. The objective of this study was to gain a comprehensive understanding of the roles of men and women, their access to and control over resources, and the constraints faced by women in dairy farming. Data from a total of 120 respondents across four regions of the country were analyzed to provide insights into the variations in gender relations within the context of dairy farming. The roles of men, women, boys, and girls, access to and control over resources between men and women, and constraints faced by women in dairy farming were assessed. To assess the involvement and access to and control over resources between men and women, a three-point scale (mostly men, mostly women, both or jointly) was employed and yes and no were used for boys and girls to examine their participation in dairy farming activities. A Likert Scale was employed to examine the constraints faced by women in dairy farming. The findings revealed that both men and women were engaged in all activities, suggesting that dairy farming in Bhutan is gender-neutral. There was the presence of gender disparities, with women having significantly ($p<0.05$) higher levels of involvement and better access to and control over resources compared to men. The observed variations in gender involvement highlight the importance of recognizing and valuing the diverse contributions of each gender category in the dairy farming sector. This understanding is crucial for developing inclusive and effective agricultural policies and programs. The study identified several constraints faced by women in dairy farming, underscoring the need for targeted interventions that address the specific needs and challenges of women dairy farmers in Bhutan. Acknowledging and leveraging the diverse contributions made by each gender category and addressing the challenges faced by women in the dairy farming sector can lead to more sustainable and equitable agricultural practices. Additionally, further exploration is necessary to investigate and understand the underlying factors contributing to the observed variations in gender roles and relations within the context of dairy farming in Bhutan.

Keywords: Access to; constraints; control over; dairy farming; gender; roles.

1. INTRODUCTION

Dairy farming is instrumental in bringing about socio-economic transformation of rural people in developing countries. In Bhutan, dairy farming forms an integral part of the farming sector for rural development as it plays a major role in poverty reduction, food security enhancement, and income as well as employment generation. Dairy animals are primarily reared for milk and its allied products mainly butter and cottage cheese (*datshi*). Manure production and draft animals for crop cultivation are secondary purposes. The smallholder farming system, rearing a few dairy cattle, is predominant in rural areas of the country. Of the 105,678 rural households, around 65% own cattle with 48% owning two or more animals (NSB, 2017). Bhutanese dairy farmers are now gradually transforming from subsistence farming to a market-oriented production system by rearing high-yielding crossbred

animals and adopting better husbandry practices. Over the years dairy production has thus gained steady momentum, which is a positive sign of dairy development in the country.

While various support provided have significantly enhanced the income and welfare of the dairy farmers and provided benefits to all stakeholders involved in the dairy value chain, it calls for an understanding of gender dynamics in dairy farming to have a sound and inclusive policy for steady development in the sector (Kuma et al 2006). According to FAO (2014), the development interventions often fail if the main features of the gender dynamics are not considered.

Gender refers to the socially constructed roles and status of women and men, girls and boys. It is a set of culturally specific characteristics defining the social behavior of women and men, and the relationship between them. Gender roles, status, and relations vary according to place (countries, regions, and villages), groups (class, ethnicity, religion, and caste), generations, and stages of the lifecycle of individuals. Gender relations determine household security, the well-being of the family, planning, production, and many other aspects of life (Patel et al 2016). Understanding the different roles that each family member plays; what and how much contribution they make, and access to and control over resources and decision-making powers within the households and communities, shall form the basis for addressing inequalities in any policy or program (Cheizom & Choden 2014). The level of participation in agricultural production, including dairy farming, is influenced by individuals' access to resources and their decision-making authority within rural communities and households. Access refers to the ability to utilize specific resources, while control over resources involves making decisions regarding their use (NCWC, 2014). According to Acharaya et al. (2020), while examining gender disparities in access to resources, factors such as ownership of houses, land, and assets related to dairy production needs to be considered. Further, Tangka et al. (2000) substantiated that dairy farming is a labour intensive activity, family members across all gender are engaged in these activities with varying degrees in level of labour contribution. Throughout recorded history, the role of women in farming has been multidimensional. Women are involved both as farmers and farm labour that play a significant role in enhancing the productivity, profitability and sustainability of the farm (Yasmin & Ikemoto, 2015), in addition to performing household chores and bringing-up children. Unfortunately, this is often insufficiently recognized or rewarded and commonly women fall under the “unpaid family labour" category (FAO 1994; Gurung and Bisht, 2014).

Cheizom and Choden (2014) reported that Bhutanese women do not suffer overt discrimination and enjoy relative freedom and equal rights with that of men in many spheres of life. Bhutan has an enabling environment for gender mainstreaming with institutions, mechanisms and processes that enable women and men to participate in the important task of nation building (GNHC, 2001; NCWC, 2014). The statistics shows that 59.2% of females are literate with net enrolment ratio of girls at 98.1 %, and of the total 164,011 households 35.3% are headed by female (NSB 2017). Thus, it is fair to say that Bhutanese women enjoy more freedom and equality and a higher social status than many other developing countries. However, Bhutanese women do face many challenges in terms of balancing their role as a mother and as a farm worker (GNHC, 2001; NCWC, 2014) and situations differ greatly between

urban and rural areas (JICA, 2017). The feminization of agriculture sector is a growing concern owing to migration of youth and men to urban areas in search of employment. Further, rural women in Bhutan are seen more vulnerable because of being involved in multiple tasks including the farming as well as the family and community responsibilities (GNHC 2001; NCWC, 2014; Cheizom & Choden 2014).

As per Labour Force Survey Report Bhutan (2020), the highest persons employed were in agriculture sector (49.9%) in which proportion of females (58.8%) is higher than that of males (41.7%). Given the prominent role of women in the farming sector, better information about characteristics of women's involvement compared to men are important in achieving goals such as increased farm output, rural income and wellbeing of the family and community at large. Further, NCWC (2014) outlined that adequate sex-disaggregated and gender specific data in farming sector are instrumental for making informed policy decision. Therefore, in absence of such data particularly in dairy farming in the country, this study is undertaken to understand the roles of men and women in dairy production including their access and control over resources for investment in dairy production, identify the constraints faced by women in dairy farming, and recommend appropriate measures to address farming challenges faced by rural women.

2. MATERIALS AND METHODS

2.1 Study location and sampling method

Bhutan, a country administratively divided into 20 Dzongkhags (districts) and 205 Gewogs (sub-districts), is characterized by diverse regional, cultural, and social contexts. Earlier studies have indicated that the role of men and women in small holder dairy farming communities varies according to region, culture, class, and caste (Gurung & Bisht, 2014). To capture these variations, a purposive sampling strategy was employed, targeting one Dzongkhag from each of the four regions. This approach aimed to provide a comprehensive representation of different ethnicities and cultural settings with gender diversity within the context of dairy farming (Table 1). The initial step involved obtaining a list of households with a minimum of two cows, where at least one female member engaged in dairy farming, from the livestock sector offices of the selected Dzongkhags. Subsequently, 30 households were randomly selected for primary data collection in each study location. Primary data were collected through face-to-face interviews using pre-tested semi-structured questionnaires. Interviews were conducted separately for male and female respondents to encourage candid and comprehensive responses. Complementing the survey, informal discussions and observations were undertaken to reinforce the findings.

Table 1: Allocation of study area in different regions

Region	Dzongkhag	Ethnic representation	No of households
West	Paro	Ngalop	30
West central	Tsirang	Lhotshampa	30
East central	Bumthang	Bumtap/Khenpas	30
East	Mongar	Sharchop	30
Total			120

2.2 Data collection

2.2.1Gender roles and involvement in dairy farming activities

The conceptual framework for analyzing gender roles was adapted from the Common Gender Analysis Tool, also referred to as the "Gender Roles Framework" by Ludgate (2016). Furthermore, the detailed elaboration of activities was derived from established studies, specifically those conducted by Abebe & Galmessa (2011), Ugyen (2020) and Khail & Ahmadzai (2022). The data collection process involved a comprehensive examination of roles organized into clusters, including on-farm, off-farm, fieldworks and community participation and education. The respondents were asked to indicate usually who is involved in each activity on three-point scale namely mostly by man, mostly by women, and by both and coded as 1, 2, and 3 respectively. Involvement of children, boy and girl, were asked to indicate as yes or no and coded as 1 and 2 respectively.

2.2.2. Access to and control over resources

The access to and control over resources between men and women was examined guided by aforementioned Gender Analysis Tool and definition of NCWC (2014). This analysis was enriched by incorporating elaborative variables outlined in the works of Kimaro & Macha (2014) and Acharaya et al. (2020). The respondents were asked to indicate usually who has ownership and decision-making power over the resources essential for dairy farming on three-point scale namely mostly by man, mostly by women, and joint ownership or decision and coded as 1, 2, and 3 respectively.

2.2.3. Constrains faced by the rural women in dairy farming

Respondents were asked to rank the constraints faced by the rural women in dairy farming by applying Likert Scale (strongly agree=5, agree=4, don't know=3, disagree=2, strongly disagree=1).

2.3. Data analysis

The data collected were compiled in an Excel spreadsheet and analyzed using SPSS version 22. Descriptive statistic such as frequency percentage was used to present gender roles and involvement level and Chi-square test was used to compare gender difference in roles, access to and control over resources essential for doing dairy farming. Difference between means was considered significant if *p* values were less than 0.05.

3. RESULTS AND DISCUSSION

3.1 Profile of the respondents

The study revealed a demographic profile of respondents primarily consisting of middle-aged individuals, with an average age of 48, ranging between 36 to 57 years. There was a notable gender disparity in overall respondent turnout, with 55% female and 45% male. However, this pattern was reversed in the West Central region, where only 16.7% of respondents were female, contrasting with 83.3% male respondents, indicating regional variation suggestive of cultural or contextual factors. Family dynamics were characterized by an average family size of 6.08 individuals, with adults comprising 4.29 and children 1.79. The study also provided insights into the workforce composition, indicating an average household male worker count of 1.44 and a slightly higher count of 1.54 for female workers. The average herd size was 6.06 animals, and respondents allocated an average of 1.26 acres of land for growing pasture and fodder for their animals. In the realm of dairy production, the average daily milk production per household was 8.56 liters. Interestingly, 59.2% of respondents engaged in selling or supplying milk, while 40.8% retained it at home, processing it into various dairy products (Table 2).

Present finding agrees with Choden et al. (2021) on characteristics of household dynamics in dairy farming, wherein reported that dairy farmers in Bhutan were, in productive age group (M=45.91years), generally smallholders that rear few heads of cattle (M=5.97), and owned and allocated (M=1.47) few acres of land for dairy farming.

3.2 Gender roles and involvement in dairy farming activities

Table 3 displays the distribution of roles and involvement level in various dairy farming works by men, women, boys, and girls, expressed in percentages. The findings demonstrate both men and women are involved in all aspects of dairy farming activities. Boys and girls are also involved, though to a lesser extent. It is notable that women had significantly ($p \leq .05$) higher involvement level than men in activities such as milking, churning, processing, keeping farm record, grazing or herding animal, marketing dairy product, weeding fodder field, storing fodder, feeding animals, taking care of newborn and nursing mother, removing dung, practicing milking hygiene, participating in community activities and attending training or study tour. Conversely, men play significant roles in shed maintenance, purchasing feed, tilling and irrigating fodder field, arranging treatment and vaccination, taking animal to Artificial Insemination (AI) or bull service center. However, activities such as preparing feed, washing utensils and collecting bedding material and fodder from forest do not show significant gender difference implying equally shared responsibilities (Table 3).

The inclusive involvement of both men and women in all aspects of dairy farming, suggest that in Bhutan, dairy farming is gender-neutral, with no specific roles assigned based on gender. However, findings indicate that men tend to undertake tasks that require physical strength, occasional involvement and moving out of the house. On the other hand, women were more inclined towards work performed daily at home and within the field that require attention on daily basis which could be attributed to our

Table 2: Respondent profile

Variables	Western	West central	East central	Eastern	Overall
Total no of respondents	30	30	30	30	120
Male respondents (%)	36.7	83.3	40	20	45
Female respondents (%)	63.3	16.7	60	80	55
Avg. age of respondents	48.10	54.33	45.07	44.50	48
Avg. family size (Nos)	5.90	6.27	6.40	5.77	6.08
Average male household worker (Nos)	1.48	1.39	1.48	1.41	1.44
Average female household worker (Nos)	1.60	1.52	1.57	1.48	1.54
Avg. herd strength (Nos)	4.77	4.50	10.57	4.40	6.06
Avg. household milk production/day (L)	8.73	9.85	7.00	8.68	8.56
Household selling milk (%)	76.7	80.0	3.3	76.7	59.2
Household not selling milk (%)	23.3	20	96.7	23.3	40.8
Land for dairy farming (acre)	0.58	0.86	2.47	1.32	1.26

Table 3: Distribution of gender roles and involvement in various dairy farming activities (%)

Roles	Mostly man	Mostly women	By Both	Boy (yes)	Girl (Yes)	*p* value
On-farm						
Milking animal	22.5	60.8	16.7	3.3	11.7	.000
Churning milk	33.6	53.3	13.1	4.1	9.0	.000
Processing milk	20.6	57.0	22.4	5.0	8.0	.000
Preparing feed	18.3	61.7	20.0	4.2	11.7	.059
Feeding animals	20.0	60.8	19.2	5.0	11.7	.011
Maintenance of shed	83.3	16.7	-	6.7	2.5	.000
Keeping farm record	32.1	56.0	11.9	4.5	12.5	.000
Taking care of sick animals	42.5	40.0	17.5	5.0	5.0	.000
Taking care of newborn and nursing mother	21.0	63.9	15.1	7.5	12.7	.000
Removing dung	16.7	61.7	21.7	8.3	18.3	.000
Practicing milking hygiene	17.5	66.7	15.8	5.0	10.8	.000
Washing utensils	1.7	78.3	20.0	10.0	32.5	.233
Off-farm						
Grazing/herding animals	21.3	54.3	24.5	6.4	11.7	.000
Collecting bedding materials	30.0	20.0	50.0	20.6	19.1	.282
Collecting fodder from forest	42.6	30.9	26.5	14.7	14.7	.398
Taking animal to AI or Bull service center	50.0	35.3	14.7	6.5	0.9	.000
Arranging treatment and vaccination	60.8	39.2	-	5.8	3.3	.000
Marketing dairy products	11.7	68.9	19.4	3.8	5.7	.014
Purchasing feed	49.5	37.4	13.1	1.0	3.1	.000
Field works						
Tilling fodder field	73.9	10.8	15.3	9.9	1.8	.014
Irrigating fodder filed	42.2	34.3	23.5	5.9	4.9	.001
Weeding fodder field	15.2	72.4	12.4	5.7	6.6	.006
Harvesting fodder	29.4	39.5	31.1	7.6	8.4	.009
Storing green grass and straw	28.0	36.0	36.0	7.0	6.9	.000
Community participation and education						
Attending community meeting	36.7	50.0	13.3	10.8	5.0	.000
Participating in community activities	17.5	66.7	15.8	5.8	8.3	.000
Attending training	33.6	50.5	15.9	2.7	7.1	.000
Going on study tour	36.1	42.6	21.3	2.8	6.5	.000

traditional connotation "Nang Gi Aum," translating to "mother of home." This term is used for societal recognition of women as the nurturers and caretakers of the home, emphasizing the pivotal role of women in managing household chores and their dedication to tasks requiring consistent, day-to-day engagement.

The present findings agree with previous studies wherein reported the labor dynamics in dairy farming, highlighting the involvement of family members of all genders to varying degrees. In a study by Tangka et al. (2000), the labor-intensive nature of dairy farming was emphasized, with family members playing different roles.

Ugyen (2020) revealed similar findings, stating that women made significant contributions in various aspects of dairy farming, with minimal involvement from children and hired laborers. Likewise, Njarui et al (2012) reported that women tend to contribute the highest labor to daily tasks in dairy farming, while men primarily engage in less frequent or seasonal tasks and limited children's labor contribution. This trend of women engaging in diverse dairy farming activities was consistent across studies by Abebe & Galmessa (2011), Kimaro & Macha (2014), Patel et al. (2016), Paul et al. (2016), and Khail & Ahmadzai (2022).

Yasmin & Ikemoto (2015) highlighted the significant role of women in farming, serving as both farmers and farm laborers, contributing to increased productivity, profitability, and sustainability of the farm. Despite this, women's efforts are often insufficiently recognized and rewarded, often categorized as 'unpaid family labor' (FAO 1994; Gurung and Bisht, 2014). In Bhutan, this issue is further compounded by the feminization of the farming sector due to migration of youth and men to urban areas, as reported by GNHC (2001) and NCWC (2014).

However, Agboola et al. (2020) reported greater male involvement in dairy farming, suggesting potential male dominance, with women mainly engaged in supportive services like cleaning, milk processing, and product sales. The observed variations in gender involvement highlight the importance of recognizing and valuing the diverse contributions of each gender category in the dairy farming sector. This understanding is crucial for developing inclusive and effective agricultural policies and programs.

3.3. Access to and control over resources for dairy farming

Table 4 displays the distribution of gender difference in access to and control over resources essential for dairy farming, expressed in percentages. The result revealed that as compared to men, women had significantly ($p \leq 0.05$) higher proportion in access to resources such as ownership of land, animal, household property, and keeping sale proceeds of milk, animal and dairy products and receiving benefits or subsidy. On the other hand, man had higher proportion of access to resources such as ownership of utility vehicle and farm machinery. In terms of control over resources, women scored significantly higher proportion in decision matters such as selling milk, buying or selling animal, selecting animal for selling or buying, selling or purchasing land, purchasing feed, taking overall household decisions, using sale proceeds and household income, deciding whom to attend training and or go for study tour. Man had significantly ($p \leq 0.05$) high proportion in deciding which breeding service to use (Table 4).

The study suggests that there exist gender disparities in favour of women being in a better position than men when it comes to accessing and controlling resources. This favorable situation for women can be attributed to the presence of an enabling environment for gender mainstreaming, which includes institutions, mechanisms, and processes that facilitate the active participation of both women and men in

Table 4: Distribution of gender difference in access and control over resources (%)

Access	Mostly man	Mostly women	Jointly	*p* value
Who owns the animal	41.7	56.7	1.7	.002
Who owns the land	35.0	46.7	18.3	.001
Who inherited land	35.4	56.6	8.0	.007
Who owns farm machinery	45.0	21.7	33.3	.207
Who owns utility vehicle	72.2	20.4	7.4	.147
Who owns majority property	31.7	60.0	8.3	.000
Who keep milk sale proceed	9.2	79.2	11.7	.016
Who keep animal sale proceed	14.2	79.2	11.7	.002
Who keep dairy product sale proceed	9.2	77.5	8.3	.016
Who receive benefit or subsidy	17.5	25.8	56.7	.000
Control	Mostly man	Mostly women	Jointly	*p* value
Who decide to sell milk	12.5	41.7	45.8	.001
Who decide to buy animal	30.8	47.5	21.7	.000
Who select animal for buying	38.3	45.0	16.7	.000
Who decide to sell animal	30.8	47.5	21.7	.000
Who identify animal for selling	29.2	50.8	20.0	.000
Who use sale proceeds	15.0	72.5	12.5	.000
Who decide to purchase feed	22.5	45.8	31.7	.001
Who decide which breeding service	42.5	35.8	21.7	.000
Who has the authority to use utility vehicle	23.3	5.0	71.7	.327
Who makes overall household decision	25.8	56.7	17.5	.000
Who use overall household income	29.2	54.2	16.7	.000
Who decide land sale/purchase	32.5	44.2	23.3	.000
Who decide to attend training	21.7	45.0	33.3	.000
Who decide to go for study tour	26.7	37.5	35.8	.000

nation-building tasks as reported by GNHC (2001; NCWC (2014).

However, this finding diverges from that of Kuma et al. (2006) wherein reported that men tend to have greater access to and control over such resources compared to women, where the ownership and marketing of larger livestock, including dairy cattle, are largely considered the domain of men, attributing to their economic profitability and elevated social standing. Similarly, Kimaro and Macha (2014) highlighted the cultural advantage men possess in terms of ownership and control over livestock and associated incomes, despite both genders having some level of access to and control over livestock-derived income.

The divergent findings emphasize the complexity of gender dynamics within the farming sector. It is crucial to recognize the multifaceted nature of gender relations in farming and to tailor interventions that promote equality and inclusivity in the context of dairy farming.

3.4. Constraints faced by women in dairy farming

Table 5 presents the participants' responses on constraints faced by women in dairy farming. The responses showed higher percentage of either strongly agree or agree

on the constraints such as work burden, limited knowledge and skills, lack of exposure, limited technology adoption, high cost of inputs, lower income levels, inconvenient training venues, extended time away from home, and inconvenience with children. However, the present study did not identify mobility issues as constraints in accessing markets and obtaining extension services.

The study uncovered a range of constraints that collectively pose challenges to the progress of rural women in the dairy farming sector. Various studies, including those by FAO, consistently highlight the labor-intensive nature of farming in Bhutan, with a s

ignificant constraint being the shortage of labor faced by farmers, particularly affecting women who juggle household and community responsibilities alongside involvement in farming (FAO, 2014). Another contributing factor is the relatively lower literacy rates and limited exposure of women, resulting in a lack of technical knowledge in crucial aspects of dairy farming such as production, breeding, health, management, and marketing (Gurung & Bisht, 2014). FAO (2023) also highlighted gender inequality in the adoption of agricultural production technologies, with women facing disparities in accessing and benefiting from such advancements. These findings draw attention to address labor shortages, enhance technical knowledge and skills among women farmers, and promote gender equality in the adoption of agricultural technologies for a more inclusive and sustainable dairy farming sector in Bhutan.

JICA (2017) reported that women farmers in remote areas of Bhutan face challenges in accessing markets due to the mountainous terrain, lack of road access, and poor road conditions. Additionally, reaching extension centers in certain rural areas becomes problematic as women have to undertake a significant walk to access a motorable road, hindering their access to essential extension services. However, contrary to the JICA report, the present study did not identify mobility issues as constraints in accessing markets and obtaining extension services. This divergence could be attributed to the government's efforts to improve road connectivity, including farm roads, which may have alleviated some of the accessibility

Table 5: Participants' responses on constraints faced by women in dairy farming

Parameters	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
Work burden due to household chores	48.3	44.2	0.8	6.7	--
Less knowledge and skills in dairy farming	40	44.2	1.7	13.3	0.8
Less exposure to good practices	24.2	53.3	3.3	15	4.2
Not used to handing gadget to obtain knowledge	24.2	23.3	11.7	19.2	21.7
Low adoption of modern technology	20.8	26.7	11.7	17.5	23.3
Cannot invest due to high cost of inputs	9.2	55	8.3	23.3	4.2
Lower income level	5	47.5	3.3	30.8	13.3
Inconvenient training venue	31.7	17.5	3.3	39.2	8.3
Takes several days outside home	20	35	4.2	35.8	5
Inconvenient with children to attend training or study tour	21.7	48.3	3.3	18.3	8.3
Mobility problem-access to market	3.3	26.7	8.3	50	11.7
Cannot obtain extension services	5	10	2.5	45	37.5

challenges. Additionally, the widespread presence of farmers' groups and cooperatives located within the village might have facilitated marketing by absorbing the farmers' products.

4. CONCLUSION

This study delves into the intricacies of gender relations within the framework of dairy farming in Bhutan. The findings significantly contribute to understanding of the roles played by men, women, boys, and girls in smallholder dairy farming communities in Bhutan. By acknowledging and addressing the variations in gender roles and relations, Bhutan can promote greater gender equality and empowerment in the dairy farming sector, ultimately contributing to the overall socio-economic development and well-being of rural communities. The findings spell out the pivotal positions held by women in participation, accessing and controlling resources within the dairy farming landscape, emphasizing their indispensable role in the sector.

Identification of constraints faced by women in dairy farming emphasizes the urgent need for customized interventions to address the diverse challenges encountered by women dairy farmers in Bhutan. Recognizing these constraints is pivotal for formulation of effective strategies, policies, and support systems aimed at empowering women to overcome challenges. Initiatives such as comprehensive training and exposure programs designed specifically for women have the potential to bridge knowledge and skills gaps. Moreover, the introduction of gender-responsive farm equipment, designed for ergonomic suitability and ease of handling, can significantly alleviate workloads and enhance the overall efficiency of women in dairy farming activities.

The findings of this study can inform policymakers, development organizations, and stakeholders in designing gender-responsive strategies and programs. While this study sheds light on existing gender roles and relations in dairy farming in Bhutan, further research and exploration are necessary to investigate and understand the underlying factors that contribute to the observed variations in gender roles and relations within the context of dairy farming in Bhutan.

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