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Gender roles and human resource dynamics in camel rearing practices

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Abstract

Camel rearing plays a vital role in the livelihoods of rural communities in arid and semi-arid regions of India, particularly in Gujarat. This study explores the role of human resources-men, women, and adolescents-in various camel husbandry practices such as feeding, cleaning, browsing, milking, breeding, sale of animals, and care of young and sick stock. Based on survey data from the clusters of Bhuj, Nakhatrana, Bhachau, and Lakhapat, the findings reveal a distinct division of labor. Men are primarily involved in physically demanding or skill-based tasks like breeding and milking, while women predominantly handle cleaning and caregiving activities. Adolescents contribute significantly, especially in browsing and supportive roles. The study highlights the importance of recognizing these contributions to improve management efficiency, ensure equitable labor distribution, and support sustainable rural livelihoods. Understanding the human dimension of camel rearing is essential for designing targeted development programs and enhancing the overall productivity of this traditional practice.

Keywords: Camel rearing, gender roles, pastoral communities, management

Introduction

Camel rearing has traditionally played a vital role in the livelihoods of pastoral communities in arid and semi-arid regions of India, particularly in Gujarat and Rajasthan. Among the various components that sustain this practice, the utilization of human resources-especially family labor-stands out as a cornerstone. In rural camel-rearing households, tasks related to animal management are largely distributed among men, women, and adolescents based on physical demand, skill requirements, and socio-cultural norms.

The present study highlights the gender-wise and age-wise division of labor across essential camel management activities such as feeding, cleaning, browsing, milking, breeding, care of young stock and sick animals, and sale of animals. Each of these tasks requires varying degrees of time, effort, and expertise, reflecting the critical role that human labor plays in ensuring animal health, productivity, and economic viability.

Findings from the study reveal distinct patterns of role distribution: men predominantly handle tasks like milking, breeding, browsing, and sale of animals, owing to their mobility and negotiation roles outside the household. In contrast, women are more involved in feeding, cleaning enclosures, caring for young stock, and managing sick animals-activities that are generally home-based. Adolescents assist across all domains, showcasing early involvement and skill acquisition in livestock management.

This division of responsibilities underscores the significant contribution of each family member in camel rearing, where traditional knowledge, daily commitment, and shared duties converge. Understanding and documenting these human resource dynamics is crucial not only for optimizing labor allocation and improving management efficiency but also for recognizing the indispensable role of rural women and youth in sustaining the camel-rearing tradition.

Materials and Methods

The present study has conducted in purposively selected Kutch district of Gujarat state.

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Four clusters were selected *viz.*, Bhuj, Lakhapat, Nakhatrana and Bhachau. The respondents were identified and the survey on camel husbandry practices followed by them. Each cluster was selected with the help of latest census record of camel population. In each cluster, thirty (30) professional breeders were selected randomly with the help of sarpanch/village secretary of gram panchayat. Total 120 respondents were selected for survey in study area. The desirable data related to the role of human resources in camel rearing was collected directly by personal interview through structured type of interview schedule. The data were collected by personal interview with the respondents and the collected data were

tabulated, analyzed statistically and concluded.

Result and Discussion

Use of surplus family labor is one of the important components of livestock rearing in India. The present survey was also conducted on aspects such as distribution of management operations (such as feeding, cleaning, browsing, milking, sale of animal, care of young stock, breeding operation and care of sick animal) or human resources in camel rearing practices. The results of human resources in camel rearing practices are shown in Table 1.

Table 1: Distribution of the role of human resources in camel rearing

Particulars	Clusters				Total
	Bhuj	Nakhatrana	Bhachau	Lakhapat	
1. Feeding					
Men	13 (43.3)	15 (50.0)	14 (46.7)	17 (56.7)	59 (49.2)
Women	15 (50.0)	10 (33.3)	15 (50.0)	11 (36.7)	51 (42.5)
Children* (adolescent)	02 (6.7)	05 (16.7)	01 (3.3)	02 (6.7)	10 (8.3)
2. Cleaning					
Men	07 (23.3)	10 (33.3)	02 (6.7)	09 (30.0)	28 (23.3)
Women	18 (60.0)	18 (60.0)	15 (50.0)	15 (50.0)	66 (55.0)
Children (adolescent)	05 (16.7)	02 (6.7)	13 (43.3)	06 (20.0)	26 (21.7)
3. Browsing					
Men	12 (40.0)	15 (50.0)	13 (43.3)	13 (43.3)	53 (44.2)
Women	01 (3.3)	04 (13.3)	09 (30.0)	04 (13.3)	18 (15.0)
Children (adolescent)	17 (56.7)	11 (36.7)	08 (26.7)	13 (43.3)	49 (40.8)
4. Milking					
Men	15 (50.0)	15 (50.0)	28 (93.3)	16 (53.3)	74 (61.7)
Women	09 (30.0)	03 (10.0)	01 (3.3)	03 (10.0)	16 (13.3)
Children (adolescent)	06 (20.0)	12 (40.0)	01 (3.3)	11 (36.7)	30 (25.0)
5. Sale of animal					
Men	08 (26.7)	16 (53.3)	19 (63.3)	12 (40.0)	55 (45.8)
Women	11 (36.7)	04 (13.3)	08 (26.7)	10 (33.3)	33 (27.5)
Children (adolescent)	11 (36.7)	10 (33.3)	03 (10.0)	08 (26.7)	32 (26.7)
6. Care of young stock					
Men	11 (36.6)	05 (16.7)	01 (3.3)	05 (16.7)	22 (18.3)
Women	10 (33.3)	20 (66.7)	21 (70.0)	21 (70.0)	72 (60.0)
Children (adolescent)	09 (30.0)	05 (16.7)	08 (26.7)	04 (13.3)	26 (21.7)
7.Breeding					
Men	19 (63.3)	17 (56.7)	16 (53.3)	22 (73.3)	74 (61.7)
Women	05 (16.7)	07 (23.3)	06 (20.0)	03 (10.0)	21 (17.5)
Children (adolescent)	06 (20.0)	06 (20.0)	08 (26.7)	05 (16.7)	25 (20.8)
8. Care of sick animal					
Men	07 (23.3)	04 (13.3)	06 (20.0)	06 (20.0)	23 (19.2)
Women	13	16	08	15	52

	(43.3)	(53.3)	(26.7)	(50.0)	(43.3)
Children (adolescent)	10 (33.3)	10 (33.3)	16 (53.3)	09 (30.0)	45 (37.5)

(Figures in parenthesis indicate cluster wise percentage)

*(Adolescent means age between 13 to 20 years.)

Feeding

Feeding involves offering concentrates, roughages and watering to nursing female, young calves, breedable animal for flushing and to sick animal habitation of the herd. This activity needs about 2-3 hours/day.

The results of survey on involvement of men, women and children for feeding of camel are shown in Table 1. Overall, a greater portion (49.2%) of men was found to be involved in feeding of camels followed by women (42.5%) and children (8.3%).

Cleaning

It is observed and recorded during personal visit that women were looking after cleaning of enclosures (*vado*).

The results of survey on involvement of men, women and children for cleaning of camels and camel sheds are shown in Table 1. Overall, involvement of women was higher (55.0%) as compared to men (23.3%) and children (21.7%) for cleaning activities. The cluster wise data also indicated that the role of women predominated for cleaning activities in the study area. These observations are in agreement with observation reported by Bhakat and Sahani (2001) [2] who opined that female members of farmer's family devote maximum time in day to day management of camel.

Browsing

This activity includes driving the herd from enclosure to browsing area and bringing back to enclosure in the evening or continue browsing for varying periods.

The results of survey on involvement of men, women and children for browsing of camels are shown in Table 1. Overall, involvement of men for browsing their camels was higher (44.2%) as compared to involvement of children (40.8%) and women (15.0%). Cluster-wise results also indicated higher involvement of males in browsing of camels in different clusters. The results indicate that the role of women for browsing of camel was comparatively lower in the study area. Similar results were recorded by Wardeh (1998) [10] and Rajput and Tripathi (2005) [8].

Milking

Milking camel cows required special skill in specific posture. This activity is carried out mainly by men and adolescent (children) in the study area. Women generally assist in bringing utensils taking milk and cleaning utensils.

The results of survey on involvement of men, women and children in milking activities are shown in Table 1. Overall, men predominated (with 61.7%) amongst all respondents for milking of camels in the study area. A comparatively lower percentage of children (25.0%) and women (13.3%) were found to be involved in milking practice. Similar findings were also reported by Khan and Iqbal (2001) [7], Bhakat and Pathak (2011) [3] and Eisa and Mustafa (2011) [5]. These findings are unique for milking of camel and are in contradiction with the reports on other dairy animals. It also appears that women did not play significant role in milking of camels in the surveyed area which is against the findings of Aujla *et al.* (1998) [1].

Sale of animals

This activity involves selling of surplus animal retaining replacements. Man or owner plays major role in final decision of selling and sale price after the consultation with women and adolescent members. Sometimes young boys remain adamant regarding price once declared.

The results of survey on involvement of men, women and children for sale of animals are shown in Table 1. Overall, highest percentage of men (45.8%) was involved in sale of animals followed by women (27.5%) and children (26.7%). Cluster-wise involvement of men was recorded highest (63.3%) from Bhachau cluster followed by Nakhatrana (53.3%), Lakhapat (40.0%) and Bhuj (26.7%). The results of the study have shown close association with the findings of Jasra and Isani (2003) [6] who also have shown that women are rarely involved in marketing of camels and their products.

Care of young stock

This activity relates to attending alluring newly born calves to weaning age. Weaning was decided by the women generally, suckling time and allowing approximate amount decided by men.

The results of survey on involvement of men, women and children for care of young stock are shown in Table 1. Overall, highest percentage of women respondents (60.0%) were involved in care of young stock followed by children (21.7%) and men (18.3%). Cluster-wise involvement of women was also higher in Bhachau and Lakhapat clusters (70.0%, each) followed by Nakhatrana (66.7%) and Bhuj (33.3%). In Bhuj cluster, men predominated in activities pertaining to care of young stock. The results of the study are in agreement with the findings of Chaudhary *et al.* (2004) [4].

Breeding

Providing males for breeding managing at rut and mating were exclusively done by men. Women and other members assist in parturition if it took place in the enclosure at near house.

The results of survey on involvement of men, women and children for breeding of camels are shown in Table 1. Overall, highest percentage respondents involved in breeding activities were men (61.7%) followed by children (20.8%) and women (17.5%). The cluster-wise data indicated that the proportion of men in Lakhapat was higher (73.3%) as compared to other clusters. The observations recorded in the study are at par with findings of Tripathi and Rajput (2006) [9].

Care of sick animal

Generally sick animals were housed in the enclosure and their feeding, watering etc. were done by women and adolescent members of the family.

The results of survey on involvement of men, women and children for care of sick animals are shown in Table 1. Overall, greater portion of respondents involved in care of sick animals were women (43.3%). The respective proportion of children and men was 37.5% and 19.2% respectively. The cluster-wise results showed that women played prominent role in care of sick animals in Nakhatrana (53.3%) and Lakhapat (50.0%). These findings are in agreement with the

observations of Aujla *et al.* (1998)^[1].

Conclusion

The study highlights the crucial role of human resources in camel rearing, emphasizing the collective involvement of men, women, and adolescents in various management tasks. Men primarily handle breeding, milking, browsing, and marketing, while women are mainly responsible for feeding, cleaning, and caring for young and sick animals. Adolescents contribute significantly across all activities, indicating early skill development. This gender- and age-based division of labor is rooted in traditional practices and family dynamics. Recognizing these contributions is essential for designing effective, inclusive development strategies that enhance productivity, empower rural families, and ensure the long-term sustainability of camel-based livelihoods.

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Conflict of Interest

Not available.

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