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Management practices followed by traditional goat farmers in different regions of Gujarat

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Abstract

The current research was carried out in various regions of Gujarat. A total of 160 goat farmers were chosen through a multistage random sampling technique. The findings indicated that the majority of goat farmers in different areas of Gujarat, except for South Gujarat, had open-type goat houses with a solid floor. Most of the farmers utilized full walls with enclosed roofing for their goat houses. Additionally, a large number of goat farmers maintain good sanitary conditions by regularly cleaning the shed and utensils, as well as washing the udder before milking. Regarding goat health, it was observed that the majority of farmers preferred allopathic medication for their goats and did not follow a vaccination schedule. This lack of adherence to vaccination was primarily due to the farmers' lack of awareness about the vaccination schedule in different regions of Gujarat and overall in the state. Furthermore, a significant proportion of goat farmers did not cultivate fodder and provided their goats with unchaffed fodder in group. Additionally, all farmers allowed their goats to graze from morning to evening between 9 am to 5 pm.

Keywords: Goat, goat farmers, central Gujarat, South Gujarat, North Gujarat, Saurashtra and Kutch, housing pattern, sanitary condition, medication

1. Introduction

The goat, scientifically known as *Capra aegagrus hircus*, is a highly adaptable and versatile animal. In India, it is known as the "poor man's cow." In recent times, there has been a growing trend in goat farming and the breeding of domestic goats. Goats are primarily raised for multiple purposes, including meat, milk, fiber, skin and manure. These diverse uses make goats valuable assets to farmers and communities, as they provide a sustainable source of income and essential resources for various aspects of human life. Goats are adaptable animals that can survive in a wide range of conditions. According to the twentieth livestock census, the goat population in India is 148.88 million below tables shows that the goat population is increasing than the previous year's census. The 2019 livestock census estimated that there were 5,18,640 goats in Gujarat in 2018-19. The districts with the highest goat populations were Dahod, Panchmahal, Kachchh, Vadodara and Banaskantha.

2. Materials and Methodology

The present study was conducted in different region of Gujarat. A total 160 goat farmers were selected using multistage random sampling techniques. In the first stage, eight districts were selected purposively according to the highest population area of goats. In the second stage, taluka was selected purposively. In the third stage, two villages were selected randomly. In the fourth stage, randomly five respondents were selected. In this way, 160 respondents

were have been selected. Data were collected through personal interview with the help of semi structure schedule in which management practices related to housing pattern, sanitary, health and fodder practices.

3. Results and Discussion

3.1 Housing pattern

It was observed that, in Central Gujarat (55%) and north Gujarat (62.5%) most of the farmers had open types of housing for goats. In South Gujarat (60%) and Saurashtra and kutch (67.5%) majority of goat farmers had close types of goat house. In overall Gujarat most of goat farmers (56.25%) had open type of houses. Kumar *et al.* (2017) ^[1] reported that 72.09 percent of goat farmers provide open type of house. Sabapara *et al.* (2014) ^[2] majority of goat farmers respondent prefer close housing system.

It was found that majority of goat farmers had pakka types of floor for goat houses in Central Gujarat (55%) in North Gujarat (62.5%) Saurashtra & Kutch (67.5%). In South Gujarat, 60 percent of goat farmers use kacha types of floors for housing goats. In Gujarat, most of the goat farmers (56.25%) had pakka types of floors for housing of goats followed by 43.75 percent of goat farmers used kacha types of floors for housing goats. Pakka type of floor easily maintain sanitary condition. Similar result found by Kumar *et al.* (2017) ^[1], they reported that 88.78 percent of goat farmers provide pakka type of floor.

Table 1: Distribution of traditional goat farmers on the basis of housing pattern of goat

Sr. No.	Particular	Central Gujarat (n=40)	South Gujarat (n=40)	North Gujarat (n=40)	Saurashtra & Kutch (n=40)	Overall n=160
Housing pattern						
1	Close	18 (45.00)	24 (60.00)	15 (37.50)	13 (32.50)	70 (43.75)
2	Open	22 (55.00)	16 (40.00)	25 (62.50)	27 (67.50)	90 (56.25)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Type of floor						
1	Kacha	18 (45.00)	24 (60.00)	15 (37.50)	13 (32.50)	70 (43.75)
2	Pakka	22 (55.00)	16 (40.00)	25 (62.50)	27 (67.50)	90 (56.25)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Types of walls						
1	Full	26 (65.00)	24 (60.00)	23 (57.50)	12 (30.00)	85 (53.13)
2	Half	14 (35.00)	16 (40.00)	17 (42.50)	28 (70.00)	75 (46.87)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Types of roofing						
1	Open	10 (25.00)	9 (22.50)	15 (37.50)	17 (42.50)	51 (31.87)
2	Close	30 (75.00)	31 (77.50)	25 (62.50)	23 (57.50)	109 (68.13)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Ventilation						
	100%	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)

Note: Figures in parenthesis indicate percentage to total

Source: Field Survey

Table 1 revealed that majority goat farmers had full walls for goat housing in Central Gujarat (65%), South Gujarat (60%) North Gujarat (57.5%). In Saurashtra and kutch, majority of goat farmers used half walls (70%) for goat housing followed and overall Gujarat, most farmers used full types of walls (53.13%) for goat housing and 46.87 percent goat farmers used half types of goat housing. Kumar *et al.* (2017) [1] found that majority of goat shed wall were full.

Study revealed that, majority of goat farmers had close roofing for goat houses in Central Gujarat (75%), South Gujarat (77.5%) North Gujarat (62.5%) Saurashtra and kutch, (57.5%). In Gujarat, most of the goat farmers adopted close types of roofing followed by 31.87 percent of goat farmers adopted open types of roofing. It was observed that all farmers had ventilated types of houses to provide fresh air.

3.2 Sanitary condition

Table 2 shows goat farmers maintain sanitary conditions in goat houses in different regions of Gujarat. Majority of goat farmers regularly clean goat houses in Central Gujarat

(95%), South Gujarat (92.5%), North Gujarat (87.5%), Saurashtra & Kutch (90%). In Gujarat majority of goat farmers (91.25%) clean goat houses regularly to prevent diseases followed by 8.75 percent not cleaning goat houses regularly. Thorat *et al.* (2017) [4] reported that 90 percent of farmers clean goat shelters regularly.

Table 2 revealed that, Majority of Goat farmers daily cleaned of utensils in Central Gujarat (95%), South Gujarat (92.5%), North Gujarat (87.5%), Saurashtra & Kutch (90%). In overall Gujarat majority (91.25%) of goat farmers clean utensils every days followed by 8.75 percent of goat farmers did not use clean utensils. Similar findings were reported by Sabapara *et al.* (2014) [2], found that majority of goat farmers used clean utensils.

It was observed that, majority of goat farmers wash udder before milking in Central Gujarat (95%), South Gujarat (92.5%), North Gujarat (87.5%), Saurashtra and Kutch (90%) In Gujarat, majority of goat farmers (91.25%) washing udder before milking followed by 8.75 percent goat farmers did not wash udder before milking. This finding is close to Pawar (2020) [5], found that traditional goat farmers washed udder before milking goat.

Table 2: Distribution of traditional goat farmers on the basis of sanitary condition of goat

Sr. No.	Particular	Central Gujarat (n=40)	South Gujarat (n=40)	North Gujarat (n=40)	Saurashtra &Kutch (n=40)	Overall (n=160)
Sanitary condition						
1	Clean	38 (95.00)	37 (92.50)	35 (87.50)	36 (90.00)	146 (91.25)
2	Dirty	2 (5.00)	3 (7.50)	5 (12.50)	4 (10.00)	14 (8.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Cleaning of utensils						
1	Cleaned	38 (95.00)	37 (92.50)	35 (87.50)	36 (90.00)	146 (91.25)
2	Uncleaned	2 (5.00)	3 (7.50)	5 (12.50)	4 (10.00)	14 (8.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Washing udder before milking						
1	Yes	38 (95.00)	37 (92.50)	35 (87.50)	36 (90.00)	146 (91.25)
2	No	2 (5.00)	3 (7.50)	5 (12.50)	4 (10.00)	14 (8.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)

3.3 Medication

Table 3 showed that, most of goat farmers give allopathic medicine to goat in Central Gujarat (45%), South Gujarat (52.5%), North Gujarat (47%), Saurashtra & Kutch (50%). In Gujarat, most of the goat farmers used allopathic medication (48.75%) followed by 28.75 percent goat farmers used allopathic and ayurvedic both types of medicine for treatment similar result found by Kumar *et al.* (2017) ^[1], majority of goat farmers use allopathic medicine for treatment of goats.

It was observed that majority of goat farmers not followed

vaccination schedule in Central Gujarat (70%), South Gujarat (62.5%), North Gujarat (75%), Saurashtra and Kutch (72.5%). In overall Gujarat, most of the goat farmers (70%) did not follow the vaccination schedule in their goats while 30 percent followed the vaccination schedule in their goats for good health and disease prevention. The reasons behind this were, most of farmers did not know about the vaccination schedule. Similar study found by Sorthiya *et al.* (2015) ^[3] and Kumar *et al.* (2017) ^[1], majority of goat farmers did not follow vaccination schedule.

Table 3: Distribution of traditional goat farmers on the basis of medication of goat

Sr. No.	Medication	Central Gujarat (n=40)	South Gujarat (n=40)	North Gujarat (n=40)	Saurashtra &Kutch (n=40)	Overall n=160
1	Ayurvedic + Home Remedies	11 (27.50)	9 (22.50)	9 (22.50)	7 (17.50)	36 (22.5)
2	Allopathic	18 (45.00)	21 (52.50)	19 (47.50)	20 (50.00)	78 (48.75)
3	Allopathic + Ayurvedic + Home Remedies	11 (27.50)	10 (25.00)	12 (30.00)	13 (32.50)	46 (28.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Vaccination schedule						
1	Follow	12 (30.00)	15 (37.50)	10 (25.00)	11 (27.50)	48 (30.00)
2	Not follow	28 (70.00)	25 (62.50)	30 (75.00)	29 (72.50)	112 (70.00)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)

Table 3.4: feed and fodder

Table 4 revealed that, most of goat farmers did not cultivated fodder for their goat in Central Gujarat (60%), South Gujarat (87.5%), North Gujarat (75%), Saurashtra and Kutch (72.5%). In Gujarat, most of the goat farmers (73.75%) not cultivated fodder for their goat and farmer maintained their goats on grazing followed by 26.25 percent

goat farmers cultivated fodder for their goats because majority of goat farmers were small and marginal and they were using their land for their food grain cultivation. Kumar *et al.* (2017) ^[1] found same result that 88.33 percent of tradition goat farmers did not cultivated fodder.

Table 4: Distribution of traditional goat farmers on the basis of feed and fodder

Sr. No.	Particular	Central Gujarat (n=40)	South Gujarat (n=40)	North Gujarat (n=40)	Saurashtra &Kutch (n=40)	Overall n=160
Cultivated fodder						
1	Yes	16 (40.00)	5 (12.50)	10 (25.00)	11 (27.50)	42 (26.25)
2	No	24 (60.00)	35 (87.50)	30 (75.00)	29 (72.50)	118 (73.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Fodder supply						
1	Chaffed	9 (22.50)	7 (17.50)	3 (7.50)	4 (10.00)	23 (14.38)
2	Un-chaffed	24 (60.00)	23 (57.50)	29 (72.50)	27 (67.50)	103 (64.37)
3	Both	7 (17.50)	10 (25.00)	8 (20.00)	9 (22.50)	34 (21.25)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Grazing times						
1	Morning	-	-	-	-	-
2	Evening	-	-	-	-	-
3	Morning to evening (9 am - 5 pm)	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)
Feeding						
1	Individual	6 (15.00)	5 (12.50)	3 (7.50)	4 (10.00)	18 (11.25)
2	Group	34 (85.00)	35 (87.50)	37 (92.50)	36 (90.00)	142 (88.75)
	Total	40 (100)	40 (100)	40 (100)	40 (100)	160 (100)

Study found that most of goat farmers supply unchaffed fodder to goat in Central Gujarat (60%), South Gujarat (57.5%), North Gujarat (72.5%), Saurashtra and kutch (67.5%). In overall Gujarat majority (64%) farmers provided unchaffed fodder to goats followed by 34 percent goat farmers had provided both types (chaffed and unchaffed) and 14.38 percent provided chaffed fodder. Similar result was found by Pawar (2021)^[5] most of farmers provided unchaffed fodder to their goats. Kumar *et al.* (2017)^[1] reported that most of the goat farmer supply fodder in form of unchaffed. Also observed that all farmers sent their goats for grazing in all regions of Gujarat. Sabapra *et al.* and Pawar (2021)^[5] reported that traditional goat farmers daily allowed there goat for grazing for more than 5 hours.

Study found that, majority of goat farmers (85%) gives feeds to their goats in groups. In Central Gujarat (85%), South Gujarat (87.5%), North Gujarat (92.5%), Saurashtra and kutch (90%). In Gujarat, 88.75 percent of goat farmers feed their goats in groups and 11.25 percent of goat farmers feed their goats in individuals. Same result observed by Kumar *et al.* (2017)^[1], revealed that that 95.24 percent of farmers feed their goats in group.

4. Conclusion

Most of the goat farmers had open type goat house with pakka floor, full wall and close roofing in different regions of Gujarat and overall Gujarat. Majority of goat farmers had clean goat shed used clean utensils and washed udder before milking. Majority of goat farmers give allopathic

medication for prevention of disease and did not follow vaccination schedule because farmers were not aware about vaccination schedule. Majority of goat farmer did not cultivate fodder and supply unchaffed fodder to their goats in groups. All farmers sent their goat to grazing daily from morning to evening.

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