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Constraints faced by traditional goat rearers in goat rearing in Gujarat

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Abstract

The goat is a versatile animal. Goat being one of the earliest domesticated animals is known for its relatively longer association with human beings and also known as poor man's cows. The present study was carried out on constraints faced by traditional goat rearers in goat rearing in Gujarat state of India. A multistage sampling method was adopted for sample selection in which 160 respondents have been selected. Data collected using a semi-structured schedule. Henry Garret's Ranking techniques were used for analyzing data. The present study analyzed feeding, health, marketing and overall constraints faced by goat rearers in Gujarat. In feeding constraints the study found major constraints faced by goat rearers was the problem of water ranked I and the mean score was 71.93 followed by non-availability of green fodder (57.19) - II, shrinkage of grazing area (49.45) - III. The large constraint faced by goat rearers were lack of health services with a mean score of 68.65 - I followed by poor vaccination coverage (65.35) -II, and high treatment cost (51.20) - III. Major marketing constraints faced by goat rearers were very poor access to market price and information with a mean score of 70.52 - I followed by high transportation cost (58.54) -II, and absence of cooperative marketing (57.05) - III. Regarding the above constraints, developing wasteland for feeding resources so rearers can grow fodders and also use them for grazing to overcome feeding constraints. Regular visit to livestock inspectors and veterinary doctors in rural areas so it minimizes health constraints. Setting up location-specific market for goat marketing and price regulatory agency for price fixation of a goat to minimize the marketing constraints thus by overcoming constraints, help goat rearers for generating good revenue for goat rearing.

Keywords: Goat, goat farmers, constraints, feeding, marketing, health, Mean score, Rank

Introduction

The goat is a versatile animal. Goat being one of the earliest domesticated animals is known for its relatively longer association with human beings and also known as poor man's cow. Goat is multipurpose animals, goat produces milk, meat, hair, manure, and skin. Goat are the main meat-producing animals in India, whose meat is the choicest meat in India with a huge demand in India. Goat rearing is a profitable occupation for goat farmers and also fits in mixed occupations (Anonymous, 2017) ^[1]. India rank first in goat population with 148.88 million (20th livestock census, 2019). The goat population is increasing as compared to previous livestock census. In Gujarat, the goat population is 51864 hundred (DoAH, 2020) ^[9]. Major districts having a goat population are Dahod, Panchmahal, Kachchh, Vadodara, and Banaskantha. The present study was designed to document the constraints faced by traditional goat rearers in goat rearing in Gujarat.

Materials and Methods

The present research was done in Gujarat state, of India. Multistage sampling was adopted. In the first stage, eight districts were selected purposively according to the highest population area of goats. In the second stage, talukas 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. The semi-structured schedule has been constructed on the basis of a review of the literature and a pilot survey. Data was collected through face-to-face interviews. Data pertaining to traditional goat rearers face constraints in goat rearing, viz feeding, health, marketing and overall constraints were collected. Henry Garret's ranking techniques were used for analyzing data. Constraints that the goat rearers faced listed out. The order of merit given by the respondent was converted into a rank by using a formula. As per the method, the respondent has been asked to assign the rank for all and the outcome of such ranking has been converted into score value with help of Garret's table. The

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factor having the highest mean value was considered to be the most important factor.

Percent position = $100 (R_{ij} - 0.5) / N_j$

Where R_{ij} = Rank is given for the i^{th} variable by j^{th} respondent
 N_j = Number of variables ranked by j^{th} respondent

Source:- Garrett and Woodworth,1971

Results and Discussion

The constraints faced by goat rearing in Gujarat are discussed below, based on the relevance of the constraints analyzed. The present study analyzed feeding constraints, health constraints, marketing constraints, and overall constraints faced by goat farmers in traditional goat rearing.

Feeding constraints

Table 1: Feeding constraints faced by goat farmers

Sr. No	Factors	Mean score	Rank
1	Problem of Water	71.93	I
2	Non -Availability of Green Fodder	57.19	II
3	Shrinkage of Grazing Area	49.45	III
4	Non -Availability of dry fodder	46.43	IV
5	Price fluctuation of feed and fodder	24	V

Source: Field Survey

Table 1 presented the feeding constraints faced by goat rears, large feeding constraints faced by traditional goat rearers were problems of water with a mean score of 71.93 Rank -I, problem of water means a scarcity of water and hard water followed by non -availability of green fodder (57.19) -II, Shrinkage of grazing area (49.45) - III, non-availability of dry fodder (46.43) - IV and lastly price fluctuation of feed and fodder (24) -V. Scarcity of water and non-availability of green fodder was mainly faced in the summer season. Shrinkage of grazing areas affected the performance of goats and reduce the profit of rearing. Price fluctuation of feed and fodder directly affected goat rearing because rears not purchased recommended feed and fodder for goats during the scarcity periods. Similar results were found by Patabandha *et al.*, (2018) [3] and Sorathiya, L. M. (2016) [5] reported the scarcity of water and non-availability of feed fodder was a major problem faced by goat farmers in the southern and western zone of Gujarat also same result was found by Tanwar (2011) [6] in semi -arid area of Rajasthan.

Health Constraints

Table 2: Health Constraints faced by traditional goat rears

Sr. No	Factors	Mean score	Rank
1	Lack of health services	68.65	I
2	Poor vaccination coverage	65.35	II
3	High Treatment cost	51.20	III
4	High kid mortality	50.40	IV
5	Abortion problem	32.30	V
6	Predator Problem	24.58	VI
7	Non -Availability of breeding stock	17.17	VII

Source: Field Survey

Table 2 revealed the health constraints faced by goat rears in Gujarat, Major health constraints faced by goat rearers were lack of health services with a mean score (68.65) rank - I followed by poor vaccination coverage (65.35) -II, High treatment cost (51.20) - III, High kid mortality (50.40) - IV, Abortion problem (32.30) - V, Predator problem (24.58) - VI and non - availability of breeding stock (17.17) -VII. Due to the lack of health services treatments cost were higher and vaccination coverage was poor and goat rears cannot provide the best healthcare facilities to their goats. Most of the farmers did not follow the vaccination schedule due to poor vaccination coverage and not giving timely treatment for deworming. Animals like leopards, dogs and wolf are predator problems. Similar results were found by Patabandha *et al.* (2018) [3] reported that poor vaccination coverage and high treatment cost are major constraints faced by goat rears in the western zone of Gujarat. Sabapara *et al.* (2014) [4] reported that goat rears faced higher mortality and high treatment cost in South Gujarat. Tanwar (2011) [6] and Yogi *et al.* (2014) [7] reported that major constraints were a lack of health services and high treatment costs in Rajasthan.

Marketing Constraints

Table 3: Marketing Constraints faced by tradition goat Rears

Sr. No	Factors	Mean score	Rank
1	Very poor access to market price and information	70.52	I
2	High transportation cost	58.54	II
3	Absence of cooperative marketing	57.05	III
4	Price fluctuation	50.96	IV
5	Prevalence of collusive activity of traders	47.44	V
6	Lack of hygiene and sanitation of markets / shops	47.22	VI
7	Higher number of middlemen	42.41	VII
8	Lesser number of buyers	25.88	VIII
9	High Marketing fee	1.87	IX

Source: Field Survey

Table 3 showed the major marketing constraints faced by goat rears in Gujarat, major constraints were Very poor access to market price and information with a mean score of 70.52 - I followed by high transportation cost (58.54) -II, Absence of cooperative marketing (57.05) - III, Price fluctuation (50.96) - IV, Prevalence of collusive activity of traders (47.44) -V, lack of hygiene and sanitation of market/shop (47.22) - VI, a higher number of the middleman (42.41) -VI, lesser number of buyers (25.88) - VIII and high marketing fee (1.87) - IX. Farmers are not aware of the market price of goats and seasonal price fluctuation due to poor access to market prices and information. High transportation costs due to the absence of cooperative marketing. Similar result was reported by Tanwar (2011) [6] major constraints were a lack of marketing infrastructure and the middleman not providing remunerative prices to male kids. Sing *et al.* (2020) reported lack proper market as a constraints in Punjab. Sorathiya *et al.*, (2016) [5] reported that middleman exploitation and distantly located market constraints faced by goat farmers in the heavy rainfall zone of Gujarat

Overall Constraints

Table 4: Overall Constraints

Sr. No	Factors	Mean score	Rank
1	Problem of Water	80.94	I
2	Non -Availability of Green Fodder	77.63	II
3	Lack of health services	73.72	III
4	Poor vaccination coverage	70.93	IV
5	High Treatment cost	61.64	V
6	Very poor access to market price and information	61.37	VI
7	High kid mortality	57.38	VII
8	High transportation cost	55.21	VIII
9	Shrinkage of Grazing Area	53.14	IX
10	Non -Availability of dry fodder	51.91	X
11	Abortion problem	51.87	XI
12	Price fluctuation	51.42	XII
13	Absence of cooperative marketing	42.26	XIII
14	price fluctuation of feed and fodder	37.79	XIV
15	Prevalence of collusive activity of traders	37.52	XV
16	Predator Problem	34.91	XVI
17	Higher number of middlemen	31.16	XVII
18	Non -Availability of breeding stock	32.66	XVIII
19	Lesser number of buyers	31.99	XIX
20	Lack of hygiene and sanitation of markets/shops	28.43	XX
21	High Marketing fee	23.13	XXI

Source: Field Survey

Table 4 revealed the Overall constraints like feeding, health and marketing faced by traditional goat rears in goat rearing in Gujarat. Major constraints faced by goat farmers were problems of water with a mean score (80.94) - I followed by Non-Availability of Green Fodder (77.63) -II, lack of health services (73.72) - III, poor vaccination (70.93) - IV, high treatment cost (61.64) - V, Very poor access to market price and information (61.37) - VI, high kid mortality (57.38) - VII, high transportation cost (55.21) - VIII, shrinkage of grazing area (53.14) - IX, Non -Availability of dry fodder (51.91) - X, abortion problem(51.87) -XI, Price fluctuation (51.42) -XII, Absence of cooperative marketing (42.26) - XIII, price fluctuation of feed and fodder (37.79) - XIV. Prevalence of collusive activity of traders (37.52) - XV, Predator Problem (34.91) - XVI, Non -Availability of breeding stock (32.66) - XVII, Lesser number of buyers (31.99) -XIX, Lack of hygiene and sanitation of markets/shops (28.43) - XX, High Marketing fee (23.13) - XXI.

Suggestions

Feeding constraints minimize by developing wasteland for feeding resources so goats can be grazed on cultivated fodder to minimize green fodder availability and grazing area. Subsidies for feed and fodder can be provided in the summer season so goat can improve their performance.

Health constraints are minimized by regularly visiting livestock inspectors and veterinary doctors in rural areas. Promote the health calendar of goats so farmers are aware of vaccination times and diseases. Provided good quality buck and artificial insemination facility at a reasonable price.

Marketing constraints minimized by organized and location-specific markets should be available for the marketing of goats. A price regulatory agency or society should be set up for the price fixation of goats.

Conclusion

Major feeding constraints faced by goat rears were the problem of water and the non -availability of green fodder. Developed wasteland of rural area for feeding and provided subsidized feed and fodder in scarcity periods so the feeding constraints should overcome. Health constraints major constraints were a lack of health services, poor vaccination coverage and high treatment cost. Regular visit to livestock inspectors and veterinary doctors in rural areas. Promote the health calendar of goats. Very poor access to market prices and information, High transportation costs and the absence of cooperative marketing were major marketing constraints faced by traditional goat rearers. The organized and location - specific market should be developed and set up price regulatory agencies and society to overcome the marketing constraints. In overall constraints problems of water, non - availability of green fodder, lack of health services and poor vaccination coverage were the major constraints. Overcoming constraints would be helping goat farmers with revenue generation.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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