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Documentation of management practices and constraints faced by Konkan Kanyal goat farmers

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Abstract

Present study was conducted in purposively selected Sindhudurg district from Konkan region of Maharashtra state to document management practices followed by Konkan Kanyal goat farmers. From the selected district, two blocks were selected randomly and further from each block six villages and from each village ten goat farmers were chosen purposively who had Konkan Kanyal goat farming experience of at least two years and had at least five Konkan Kanyal goats in their shed at the time of survey. Organized pretested interview schedule was set up in local language to gather the data through personal interview strategy. Management practices followed were measured in four categories namely breeding, feeding, health management and miscellaneous. The study reflected that overall management practices were of low level. Major constraints faced by goat farmers while managing goat farming in order were unavailability of grazing land, green fodder and concentrate feed, lack of knowledge to formulate balanced ration and distant location of veterinary dispensaries from the village and high treatment cost.

Keywords: Goat, Konkan Kanyal, farmers, constraints, management

Introduction

Goat are the smallest domesticated ruminants and served mankind longer than sheep and cattle. Goat are small sized animal, so they are easily maintained and easily cared by children, women and old farmer. Goat keeping generates source of regular income to the poor, landless and marginal farmers. Goats are reared as they are important source of meat, milk and fibre. That's way goat has been considered as "poor's man cow". Goat meat is a great source vitamin & mineral. Goat meat is very tasty, nutritious and healthy. Skin of goat plays a vital role in leather industry. Goat milk is easily digestible and has medicinal values. Also, goats are called "foster mother of human". Because goat milk is considered as the best milk for consumption than other livestock animals. It is low cost, nutritious and easy digestible so, all aged people from child to old can easily digest goat milk. Goat milk also is less allergic. Starting a goat farming business required low initial investment. Goat are very friendly in nature and very lovable. Goat are good breeder and they reach sexual maturity within their 8-12 months of age and give birth of kids within a short time. Risk of goat farming is less than other livestock farming. Both male and female goats have almost equal value in the market. No religious taboo against goat farming and meat consumption. Diseases are less in goats than other domesticated animals. Goat are capable of adopting themselves with various agro-climatic conditions and can tolerate low and high temperature. Goat meat has high demand and price in local market and international market. Goat manure as a good quality natural fertilizer for agriculture.

The National Commission on Nutrition stated that the balanced human diet should comprise 11 kg of meat/annum. However, the current availability in Maharashtra state is only 2.26 kg/annum (from all Species). Due to increasing human population, the average meat availability is not likely to exceed. there is a huge gap between demand and supply and thus goat rearing could not only improve protein intake in the state, but it will also create great employment opportunities for the state's rural unemployed youth. Goat rearing is an age - old rural farmer's avocation that is primarily managed by women. Unlike other meat producing animals, goat meat is consumed by all segments of society, regardless of caste or religion.

As a result, a little scientific assistance would aid in providing farmers with livelihood security through goat husbandry.

Osmanabadi and Sangamneri are the two known goat breeds of Maharashtra state of India listed among the 34 goat breeds of India. Besides these, there are some other populations in this state which appear to be different but have not been studied. Kanyal goats is one such populations, which exists in the Konkan region of Maharashtra state. In heavy rainfall area few goats can survive well but this new type of goat population through intensive selection survives well and performs satisfactorily. Present study is mainly confined to goat farmers rearing Konkan Kanyal breed. Goat farming acts as a subsidiary enterprise, which is providing additional income, apart from employment to the rural people, while playing a vital role in improving their socio- economic conditions and providing ample opportunities to improve their standard of living.

Objectives

To document the management practice followed by Konkan Kanyal goat farmers.

To study the constraints perceived by Konkan Kanyal goat farmers.

Materials and Methods

Sindhudurg district from Konkan region of Maharashtra was purposively selected keeping in view the availability of Konkan Kanyal breed of goat in that area. Many farmers practice goat rearing as the primary source of income. Two blocks namely Kudal and Vengurla were purposively selected. From each block, six villages were selected purposively and from each village, 10 farmers were selected randomly thereby, making a total of 120 goat farmers as respondents. In addition to this, goat farmers should have at least 5 Konkan Kanyal goats and completed atleast 2yrs of experience in goat farming at the time of survey. The information about the managerial practices carried out by the goat farmers was collected through developed interview schedule. The collected information was categorized into four categories that is following: -

1. Breeding practices
2. Feeding practices
3. Health management
4. Miscellaneous practices

The collected information was assessed on the basis of frequency and percentage of respondents.

Constraints faced by the farmers were also recorded in this research and was calculated by Garette ranking technique.

Garrett's ranking technique

By using this technique, the order of the merits given by the respondents were changed into ranks by using the formula

Per cent position = $100 (R_j - 0.5) / N_j$ where,

R_j = rank given for i th factor by j th individual. N_j = number of factors ranked by j th individual. The per cent position of each rank were converted into scores by referring table given by Garrett. Then for each factor, the scores of individual

respondents were added together and divided by the total number of respondents for whom scores were added. These mean scores for all the factors were arranged in descending order and the constraints were ranked. Score for each of the constraints after transmutation of order of merit as per Garret (1981) was found out separately. To obtained the final order of merit, the score for all the respondents for each of the constraints were summated separately and the mean value was calculated. In findings out the mean values, the sum of the scores for each item was divided by its frequency of response.

Results and Discussion

Documentation of management practices followed by goat farmers

Various managerial practices followed regarding Konkan Kanyal goat were documented. Breeding, feeding, health management and miscellaneous practices were the various areas selected for the study.

Breeding practices

Table no. 1 revealed that majority (97.50 per cent) of respondents were following natural breeding method, while 2.50 per cent of respondents were following artificial insemination method in goats. Natural breeding method is the best method for breeding in goats.

Table 1: Breeding management practices followed by Konkan Kanyal goat farmers (N=120)

S. No.	Characteristics	Category	Frequency	Percentage
1.	Breeding method	Natural	117	97.50
		Artificial	03	2.50
2.	Source of breeding buck	Borrowed	15	12.50
		Own herd	25	20.83
		Hired	68	56.67
		Brought	12	10.00

Goat farmers in the study area used to keep one male goat for breeding purpose in their herd and other male kid were castrated by farmers to increase their body weight, to improve the meat quality and get good market price. Artificial insemination method was not done by farmers. For the source of breeding buck, 56.67 per cent of respondents used to hire buck, whereas 20.83 per cent and 12.50 per cent of respondents had own buck and borrowed buck for breeding purpose, while 10.00 per cent of respondents brought buck for breeding purpose from friends, relatives and family members from residing and nearby villages. The farmers were not aware about breeding problems in goats that might occur in futures. This result is in line with Islam *et al.*, (2018) ^[3] and Shoshe *et al.*, (2019) ^[1].

Feeding practices

It is observed from Table 2 that 63.33 per cent of respondents followed extensive rearing system, because most of the respondents had marginal land and low income, therefore, farmers can't afford stall feeding and mainly sufficient grazing area was available for feeding goats. Semi-intensive and intensive rearing pattern was practiced by 26.67 per cent and 10.00 per cent of respondents.

Table 2: Feeding management practices followed by Konkan Kanyal goat farmers (N=120)

Sr. No.	Characteristics	Category	Frequency	Percentage
1.	Feeding system	Extensive (grazing)	76	63.33
		Semi-intensive	32	26.67
		Intensive (stall)	12	10.00
2.	Feeding management	Green grass	96	80.00
		Green grass & concentrate	24	20.00
		Water once a day	14	11.67
		Water twice a day	106	88.33
		Grazing in rainy season	92	76.67
		No grazing in rainy season	28	23.33
		Only tree leaves allowed in rainy season	25	20.83
		Both green grass and tree leaves allowed in rainy season	95	79.17
		Always given concentrate feed	20	16.67
No Concentrate feed	100	83.33		

In case of feeding management, majority (80.00 per cent) of goat farmers used to give only green grass, while 20.00 per cent of respondents were feeding concentrate along with green grass for goats. Water was provided twice in a day by 88.33 per cent and 11.67 per cent of respondents provided water once in a day. Regarding concentrate feeding, majority (83.33 per cent) of respondents were not feeding concentrate to their goats mainly because of its higher cost and unavailability while 16.67 per cent of respondents were always feeding concentrate feed along with grazing (wheat bran, rice bran, maize etc). Balanced ration and flushing feed were not provided by majority of respondents because of lack of knowledge to formulate balanced ration.

More than three fourth (76.67 per cent) of respondents allowed grazing of goats in rainy season, whereas 23.33 per cent of respondents were not allowing grazing in rainy season as they used to follow semi- intensive and intensive rearing system. About 79.17 per cent of respondents were feeding green grass, tree leaves along with concentrate in rainy season. Feeding only tree leaves in rainy season was practiced by 20.83 per cent of respondents because of heavy rainfalls and unavailability of grazing land, green fodder and

concentrate feed. Therefore, feeding management is the most important aspect in rainy season for Konkan Kanyal goat farmers. This result is in line with the findings of Mandavkar *et al.*, (2015) ^[2] and Shoshe *et al.*, (2019) ^[1].

Health management

From the table no. 3 it is revealed that 80.00 per cent of goat farmers vaccinated their goats regularly due to knowledge of farmers about various diseases and importance of vaccination in prevention of diseases while 16.66 per cent of respondents vaccinated goats irregularly and remaining meagre (3.33 per cent) of respondents had not vaccinated goats due to lack of knowledge regarding importance of vaccination. About vaccine source, 62.50 per cent of farmers purchased vaccine from local market, while 37.50 per cent of respondents purchased vaccine from veterinary dispensary. About 54.17 per cent of respondents were using doorstep veterinary services from livestock supervisor because of distant location of veterinary dispensaries, while 33.33 per cent of respondents were using veterinary doctor services and remaining 12.50 per cent of respondents were not getting any veterinary services because of high treatment cost.

Table 3: Health and care management practices followed by Konkan Kanyal goat farmers (N=120)

Sr. No.	Characteristic	Category	Frequency	Percentage
1.	Vaccination	Regular	96	80
		Irregular	20	16.66
		Not at all	4	3.33
2.	Vaccine source	Vet dispensary	45	37.5
		Local market	75	62.5
3.	Veterinary services	Veterinary Doctor	40	33.33
		Livestock supervisor	65	54.17
		No consultancy	15	12.5
4.	Deworming	Regular	85	70.83
		Irregular	25	20.83
		Not at all	10	8.33
5.	Treatment of external parasite	Regular	25	20.83
		Irregular	80	66.67
		Not at all	15	12.5
6.	Disposal of carcass	Burn	0	0
		Buried	93	77.5
		Left to outside	27	22.5
7.	Disposal of placenta	Buried	85	70.83
		Throwing on open area	35	29.17
8.	Idea about disease	Clear idea	40	33.33

Regarding deworming, 70.83 per cent of respondents were following deworming schedule regularly, whereas 20.80 per cent of respondents were following deworming schedule irregularly, while 8.33 per cent of respondents were not

following deworming schedule at all.

About 66.67 per cent of respondents were doing treatment of external parasite irregularly, whereas 20.83 per cent of respondents were doing treatment against external parasite

regularly, while 12.50 per cent of respondents were not doing any treatment against external parasite. Regarding disposal of carcass, 77.50 per cent of respondents were doing burial of carcass properly due to proper knowledge about spread of diseases due to improper burial process and remaining 22.50 per cent of respondents were disposing carcass outside. For disposal of placenta, 70.83 per cent of respondents buried placenta properly, while 29.17 per cent of respondents were throwing placenta in open area. Regarding idea about diseases, 52.50 per cent of respondents had partial idea, whereas 33.33 per cent of respondents had clear idea about diseases, while remaining 14.16 per cent of respondents had no idea about diseases. This result is in line with Mandavkar *et al.*, (2015) [2], Sorathiya *et al.*, (2016) and Shoshe *et al.*, (2019).

Miscellaneous practices

It is revealed from Table 4 that nearly two third (66.67 per cent) of respondents had kachha housing system for goat due to poor financial condition and difficulty in getting loan

facility, whereas 20.83 per cent of respondents had pakka housing for goats, while remaining 12.50 per cent of respondents had cement concrete housing due to better financial condition to provide standard housing for goats. About floor and ventilation, 70.83 per cent and 75.00 per cent of respondents were having mud floor with insufficient ventilation house for goats because of lack of knowledge regarding scientific housing system, whereas 20.83 per cent and 16.66 per cent of respondents had brick finished floor with sufficient ventilation house, while remaining 8.33 per cent of respondents had both cement /concrete floor with no ventilation housing for goat due to risk from predators and wild animal attack. Regarding, house cleaning management, 87.50 per cent of respondents were regularly cleaning house as they had basic knowledge about diseases which spread due to unhygienic conditions whereas remaining 12.50 per cent of respondents were irregularly cleaning house. This result is in line with Sorathiya *et al.*, (2016) [4], Islam *et al.*, (2018) [3] and Shoshe *et al.*, (2019) [1].

Table 4: Miscellaneous management practices followed by Konkan Kanyal goat Farmers (N=120)

Sr. No.	Characteristics	Category	Frequency	Percentage
1.	Housing	Kachha house	80	66.67
		Pakka house	25	20.83
		Cement concrete House	15	12.50
2.	Floor	Mud	85	70.83
		Brick Finished	25	20.83
		Cement concrete	10	8.33
3.	Ventilation	Sufficient	20	16.66
		Insufficient	90	75
		Not at all	10	8.33
4.	House cleaning	Regular	105	87.5

Constraints perceived by Konkan Kanyal farmers regarding goat farming

Table No. 5 depicts the constraints faced by farmers rearing Konkan Kanyal breed of goat. The first main constraint faced by goat farmers was unavailability of grazing land, green fodder and concentrate feed which include 65.61 per cent of goat farmers. The results are in consonant with Singh and Chauhan (2006) [11] and Gamit *et al.*, (2020) [5]. Distant location of veterinary dispensaries from the village and high treatment cost was perceived as second important constraint by 57.17 per cent of respondents. This result is in line with the findings of Rathod *et al.*, (2011) [6], Bera *et al.*, (2018) [7]. Lack of knowledge to formulate balanced ration was ranked as third constraint by 54.78 per cent goat farmers, while lack of financial and loan facility was ranked as fourth constraint by 54.76 per cent of goat farmers. These findings are in line with Senthil *et al.*, (2018) [8]. Lack of knowledge regarding

scientific goat farming and housing systems was ranked as fifth constraint by 54.46 per cent of goat farmers. These results are in line with Gurjar *et al.* (2008) [9]. Risk from predator's and wild animal's attack was ranked as sixth constraint by 53.90 per cent respondents. These findings are in line with Sathyanarayan *et al.*, (2010) [10]. Inadequate linkage with extension agencies and various government organizations was ranked as seventh constraint by more than half (52.98 per cent) of goat farmers, while unavailability and distant location of market and its infrastructure was ranked as eighth constraint by 52.44 per cent of goat farmers. This result is in line with Senthil (2018) [8]. Risk of high kid mortality was observed by 45.29 per cent of goat farmers as ninth constraint. Lastly, repeat breeding and indiscriminate breeding problems was ranked as tenth constraint by 28.60 per cent of goat farmers. These results are in line with Singh and Chauhan (2006) [11] and Gamit *et al.*, (2020) [5].

Table 5: Ranking of constraints faced by Konkan Kanyal goat farmers towards Goat farming.

Sr.no.	Constraints	Respondents (N = 120)	
		Mean score	Rank
1.	Unavailability of grazing land, green fodder and concentrate feed	65.61	I
2.	Distant location of veterinary dispensaries from the village and high treatment cost	57.17	II
3.	Lack of knowledge to formulate balanced ration	54.78	III
4.	Lack of financial and loan facility	54.76	IV
5.	Lack of knowledge regarding scientific goat farming and housing systems	54.46	V
6.	Risk from predator's and wild animal's attack	53.90	VI
7.	Inadequate linkage with extension agencies and various government organization's	52.98	VII
8.	Unavailability and distant location of market and infrastructure	52.44	VIII
9.	Risk of high kid mortality	45.29	IX
10.	Repeat breeding and indiscriminate breeding problems	28.60	X

Conclusion

Majority of the respondents hired buck from other goat farmers and followed natural breeding method. Extensive rearing was the feeding system followed by semi-intensive and intensive rearing pattern and water was provided twice in a day. Balanced ration and flushing feed were not provided by majority of respondents because of lack of knowledge to formulate balanced ration. Vaccination, deworming of goats was done regularly as farmers are aware about various diseases and prevention of diseases. About three fourth of respondents had mud floor with insufficient ventilation house for goats because of lack of knowledge regarding scientific housing system.

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