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Housing and health care management practices followed by the local goat farmers of the northern Hilly region of Chhattisgarh

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Abstract

The present experiment was conducted in Surajpur, Surguja and Balrampur districts of the Northern hilly region of Chhattisgarh state to assess the prevalent management and health care practices adopted by the 140 goat farmers in the native tract. The present study reveals that all goat farmers provide sheds and 67.14% of respondents constructed Separate houses for their goats. Three types of floors Kaccha/earthen, brick paved/cemented and wooden + earthen (raised platform) with percentages of 60.00, 8.57 and 32.14, respectively prevalent in the studied area. The majority (75%) of goat farmers in the northern hills of Chhattisgarh constructed thatched roofs. Most (61.42%) respondents adopted an extensive system (grazing + kitchen waste) of rearing. Due to a lack of awareness and training, not a single goat keeper in the investigated area maintains the breeding record. The present findings indicate that less than 50% of goat farmers know the benefits of vaccination. The majority (55.71%) of the goat farmers were aware and 44.28% of respondents were not aware of the benefits of deworming. The annual kid mortality was 12.01% and it has been concluded that kid mortality is mostly observed in the monsoon and winter seasons.

Keywords: Housing, floor, vaccination, feeding, management, local goats, health care

Introduction

Goat farming is one of the oldest farming activities in India. The goat is a multipurpose animal, that produces meat, milk, fiber and manure. The goat is a versatile animal and is mostly reared by poor, marginal and nomadic farmers under the most primitive management systems (Patil *et al.*, 2009) [7]. Goat is popularly known as a “Poor Man’s Cow” or “Wet Nurse of Infant” due to its potential to produce milk with compositions indistinguishable from humans. Goat meat has no religious taboos and is accepted by all sections of society Goat farming can be started by investing a small amount to increase their earnings. Goat farming is easier than any livestock due to low investment, basic housing requirements, easy maintenance, adaptability to different environmental conditions etc. Goat rearing can be started by farmers by investing a small amount to increase their income, although it plays an important role in saving rural youth from unemployment. Goat is one of the main livestock producing meat in India and the demand for its meat is also very high. It provides food and nutritional security to the families of landless laborers, small and marginal farmers (Dhaliwal *et al.*, 2022) [3]. They are also an excellent source of animal protein. Goat rearing can be managed by spare family labor and does not require any serious housing facilities and management skills. According to the 20th Livestock Census, the total goat population of India and Chhattisgarh was 148.04 million and 40 million (Anonymous, 2019) [1]. The northern hilly region of Chhattisgarh possesses 15 million goat population (Anonymous, 2019) [1]. Animal husbandry is an important activity in the rural areas of the Chhattisgarh state and goat is one of the major livestock species. The local goat keepers of maintain goats under a traditional system using low or no-cost inputs. Local goat found in the northern hills of Chhattisgarh is hardy and well-adapted under adverse climatic conditions and reared mainly for meat purposes. Considering all the above facts an investigation was carried out to know the management and health care practices adopted by the goat farmers of Surajpur, Surguja and Balrampur districts of the Northern hilly region of Chhattisgarh state.

Materials and Methods

The current experiment was carried out in the Surajpur, Surguja and Balrampur districts of the Northern Hilly region of Chhattisgarh state in 2022. From each district three blocks were selected and 6 villages from each block were chosen after consulting the veterinary staff working there. A total of 140 goat farmers, from 50 villages were demarcated to study the prevalent management and health care practices adopted by the local goat farmers in the native tract. A predesigned questionnaire with emphasis on studying the related parameters was prepared, personal interviews were conducted and related data were recorded from respondents. The recorded data were compiled, tabulated and analyzed with the help of descriptive statistics like frequency and percentage for the interpretation of the results.

Results and Discussion

The data relating to the prevalent management practices of local goat farmers of the northern hilly region of Chhattisgarh is furnished in Table 1.

Table 1: Prevalent management practices of local goat farmers of the northern hilly region of Chhattisgarh is furnished.

S. N.	Variable	Category	Frequency	Percentage
1.	Provision of house	Yes	100	100
		No	0	0
2.	Separate house facility	Yes	94	67.14
		With other animals	30	21.43
		With owner	16	11.43
3.	Floor Type	Earthen	84	60.00
		Cemented/Concrete	12	8.57
		Wooden (Raised platform) + Earthen	45	32.14
4.	Roof type	Thatched Roof	105	75.00
		Concentrated/Asbestos sheet	17	12.14
		Grass/Bamboo	18	12.86
5.	Sources of Feeding	Extensive (Grazing + Kitchen waste)	86	61.42
		Semi-intensive (Grazing + Kitchen waste + Concentrate)	50	35.71
		Intensive	6	4.28
6.	Provision of water	Yes	150	100
		No	0	0

Provision of House and Separate House Facility

Table 1 clearly revealed that all goat farmers of the northern hills of Chhattisgarh provide sheds to their goats and 67.14% of respondents constructed Separate houses for their goats. The present finding was in agreement with the findings of Tawar *et al.*, (2008) [10] who concluded that 93.33% of goat farmers in the tribal area of the Udaipur district of Rajasthan kept their goats near their dwellings. About 45.33% of respondents construct separate night shelters/houses followed by 38% of farmers keeping their goats with other animals like cattle and sheep and 16.67% of farmers kept goats in corners of their houses concluded by Jana *et al.*, (2014) [4]. A similar finding was also reported by Bashir and Venkatachalapathy (2017) [2] who concluded that 65.71% of Malabari goat keepers in Northern Kerala kept goats attached to their residences while 34.29% constructed separate houses for their goats. Raskar *et al.*, (2018) [8] concluded that most of the respondents (83.33%) provided housing facilities only during the night while 16.67% of goat keepers provided day and night housing facilities.

Floor type

The floor of the goat shed can be made of mud, concrete or raised floor. Table 1 reveals that there are three types of floors Kaccha/earthen, brick paved/cemented and wooden + earthen (raised platform) with percentages of 60.00, 8.57 and 32.14, respectively evaluated in the present investigation. The percentage of raised platform floor type is 32.14, the main reason for this is the abundance of forests and easy availability of wood in the studied area. The current finding is closely associated with the finding findings of Jana *et al.*, (2014) [4] who evaluated that the percentage of earthen, cemented and brick platters with clay floor type was 56.65%, 11.33% and 30.00% respectively. The findings of the present investigation were in contrast with the findings of Tawar *et al.*, (2008) [10] who reported that 82.50% and 17.50% of respondents in tribal areas of the Udaipur district of Rajasthan reared their goats on dust floors and mud floors (gobar and clay). Bashir and Venkatachalapathy (2017) [2] also evaluated that 69.76%, 18.10%, 8.81% and 3.33% of Malabari goat farmers of Northern Kerala kept their goats raised floors with wood, the floor found to be raised wood, earthen type, brick-finished and cemented floor. Raskar *et al.*, (2018) [8] stated that the majority (98.72%) of respondents constructed a kutcha type of floor in the goat shed, whereas only 1.28% provided the pucca type of floor in the goat shed for Osmanabadi goats.

Roof type

Roofing material reflects the availability of local materials, the cost of construction and the environment inside the goat shed. The majority (75%) of goat farmers of the northern hills of Chhattisgarh had thatched/earthen tiles roofs. It may be due to some farmers themselves making mud tiles in their houses. Mud tiles are also locally available easily and at a low cost. The thatched roof provides a cool atmosphere inside the goat shed in tropical climatic conditions in summer.

Similar findings about roofing material were observed by Bashir and Venkatachalapathy (2017) [2] also concluded that 72.86% of Malabari goats of Northern Kerala used thatched roofs followed by earthen tiles (17.14%) and 10% of respondents used Tin/GI sheets as roofing material. A contrast finding was observed by Jana *et al.*, (2014) [4] who quoted that the majority (56.67%) of goat keepers constructed traditional thatched roofs followed by corrugated asbestos sheets (11.33%) and the rest of respondents used another type (Iron sheet, mud tiles) as roofing material in their goat shed.

Sources of feeding

The present finding stated that most (61.42%) respondents reared their goats in an extensive system (grazing + kitchen waste). In the northern hills of Chhattisgarh natural vegetation, pasture, grassland, etc. is available in sufficient quantity and goats are also taken to the forest for grazing. So, the majority of the local goats of the northern hills of Chhattisgarh fulfill their feeding requirements by grazing natural grassland/vegetation, forest and hilly areas and preferred tree leaves were Sal trees, Mango, Jackfruit, Mahua, Tamarind, Jamun, Banyan, Peepal, Ber tree leaves etc. The present findings of system rearing were in line with the findings of Bashir and Venkatachalapathy (2017) [2] who reported that 77.40% of goat keepers adopted homestead farming/extensive farming system followed by the semi-intensive system (19.00%) and only 3.6% farmer opted extensive rearing system while Jana *et al.*, (2014) [4] concluded contrast finding and stated that majority 90% of the

goat farmers of Burdwan district of west Bengal adopted semi-intensive rearing system followed by (10%) free range system.

Provision of water

Goats should offer clean and fresh water ad-lib. Various factors like stage of lactation, ambient temperature, the water content of forage consumed by goats, salt and minerals in the diet, etc. affect the water requirement. Due to their selective feeding behavior goats prefer to eat tender leaves, so they generally fulfill the daily requirement of water. Still, it is a good practice to provide water to them. Normally goats require 5 litter of water in winter and 10 litter in summer season. All the goat keepers of the investigated area provide water to their goats. They also provide rice water to their goats. Water is given only during the day. The present investigation was in line with the findings of Jana *et al.*, (2014) [4] who reported that the majority of the (86.67%) respondents of the Burdwan districts of West Bengal offer daily water to their goats while 13.53% of respondents offer water irregularly (not daily).

The data relating to prevalent healthcare practices adopted by local goat farmers of the northern hilly region of Chhattisgarh is furnished in Table 2.

Table 2: Health care practices adopted by local goat farmers of the Northern hilly region of Chhattisgarh

S.N.	Variable	Category	Frequency	Percentage
1.	Breeding record	Yes	0	0
		No	140	100
2.	Vaccination status	Yes	69	49.28
		No	71	50.71
3.	Deworming	Yes	78	55.71
		No	62	44.28
4.	Ectoparasite removal	Yes	43	30.71
		No	97	69.28
5.	Kid Mortality			12.01%

Breeding record

Record keeping is a very important practice to run any successful farm. This breeding record provides opportunities to goat farmers for the selection and culling of animals on the basis of their past performance. Due to a lack of awareness, training and high illiteracy among goat farmers, not a single goat keeper in the investigated area maintains a breeding record. The data regarding breeding records were closely associated with the findings of Tawar *et al.*, (2008) [10] who quoted that not a single respondent maintained/kept a breeding record of goats in the tribal area of Udaipur district of Rajasthan.

Vaccination

The present findings indicate that less than 50% of goat farmers are aware of the benefits of vaccination. This finding may also be because of a lack of awareness, training, high illiteracy among goat farmers and also lack of availability of veterinary services. The present findings were in line with the findings of Jana *et al.*, (2014) [4] and Kakraliya *et al.*, (2022) [5] who concluded that 57.50% and 58.67%, respectively of goat farmers of the Burdwan District of West Bengal and Sirohi District of Rajasthan were aware of the vaccination of their goats.

Deworming

The present findings reveal that the majority (55.71%) of goat farmer was aware and 44.28% of respondents were not aware of the benefits of deworming. This finding may also be because of a lack of awareness, and training, high illiteracy among goat farmers, lack of availability of veterinary services and poor economic status. This finding was closely associated with the findings of Sunder *et al.*, (2018) [9] who concluded that there was no regular deworming practice adopted by the local goat farmers of Andaman and Nicobar Island.

Ectoparasite removal

In the present investigation, ectoparasite removal was practiced only in 30.71% of households, whereas 69.28% of farmers have not performed this. The present findings were in line with the findings of Lavana *et al.*, (2014) [6] who concluded that 80% of the respondents did not adopt any practice to control ectoparasite. Vardharajan *et al.*, (2022) [11] evaluated that about 41.67% of farmers of Coastal Tamil Nadu practice dusting insecticide powder to control ectoparasite.

Mortality

It has been evaluated in the present study that kid mortality is mostly observed in the monsoon and winter seasons and the overall annual kid mortality was 12.01%. The present finding was in line with the observation of Sunder *et al.*, (2018) [9] who stated that kid mortality is generally reported in the monsoon season with a 2.28 to 10.06% mortality range in Andaman Local Goats of Andaman and Nicobar Island.

Conclusion

From the present study, it can be stated that all goat farmers were aware of the importance of housing and provided sheds for their animals. The most prevalent floor and roof type in this area is Kaccha/earthen floor and thatched roof. Mud tiles are locally available easily at low cost and some farmers themselves make mud tiles in their houses. Most respondents adopted an extensive system (grazing + kitchen waste) of rearing. Lack of awareness and poor health care service were also observed in the investigated area. There is an urgent requirement for the development of infrastructure, veterinary facilities, training and extension services in the Northern hills of Chhattisgarh.

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