

Constraints being faced by sojat goat rearers in Pali and Jalore districts of Rajasthan, India

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ABSTRACT

The present study was carried out in the purposively selected pali and jalore districts of Marwar region of Rajasthan. A multistage stratified random sampling design was used to select the districts, tehsils, villages and sample households. A sample of 160 households were selected for the present study. Data were collected personally through a well structured and pre-tested interview schedule. Among the selected constraints methods housing and management constraints were faced to greatest extent by the goat owners with (MPS=87.58). These were followed by feeding constraints with (MPS=84.00), health care constraints with (MRP=79.06), breeding constraints with (MRP=69.20) and marketing constraints with (MPS=55.16) of goat owners in the study area.

Key words: Constraints, Marketing, Feeding, Breeding, Health, Housing and management

Introduction

Marwar region of Rajasthan comprises of four districts viz., Jodhpur, Jalore, Pali and Barmer of Rajasthan. This region is located between 24.45 to 26.75 degree N latitude and 72.48 to 74.20 degree E Longitude at an altitude ranging between 212 m to about 220 m above mean sea level with a total geographical area of 51,387 square kilometers. The pali and jalore district were selected for this study. Goat rearing forms an important occupation in rural areas of this region. Goat farming forms an important component of livestock rearing system in the region. Besides providing benefits of nutrition, additional income and employment to the rural households, the importance of this enterprise is highlighted in

light of the direct bearing it has on the agriculture of the region. This enterprise provides farm families the farmyard manure for maintaining the fertility of the saline and salt affected soil and draught power for performing the farming operations in the rain fed condition and important by it provides insurance against frequent crop failures in the region. The goat and sheep farming though holds immense importance in regional rural economy, it is still a household enterprise. The size of the goat and sheep flock maintained in the region is small varying from 25-50 animal heads including the young one also (Sah, 1999). The farmers rear goat mainly in extensive management system using traditional management practices relying on community land for grazing and are yet ignorant of scientific management

practices. (Tanwar,2011) undertaken a survey to investigate the constraints faced by goat farmers in semi arid part of Rajasthan. Data collected from 240 households revealed that feeding was the main constraint faced by 78.75 per cent goat farmers followed by marketing, health and breeding by 77.50, 74.25 and 71.11 per cent farmers, respectively. The main constraint regarding feeding management was lack of knowledge about balanced feeding, high cost of feeds and fodder, lack of irrigation facilities, non availability of green fodder, lack of knowledge about importance of mineral mixture, and shrinking grazing land. Regarding breeding, main constraints were inadequate availability of breeding buck, lack of knowledge about breeding practices and indiscriminate breeding practice. With respect to health care the major constraints were lack of veterinary services in villages, high cost of treatment, ignorance about importance of deworming, lack of knowledge about common diseases and vaccination programme not carried out by any agency. With respect of marketing, the main constraints were lack of marketing infrastructure, middleman not fetching remunerative price to male kids, unorganized goat owners and not even a single agency helped in marketing. Considering above facts, it is suggested that appropriate strategy might be formulated for the development of goat. The adoption of improved management practices specially improved feeding, breeding and other management practices not only help to achieve the desired level of goat production but also increase income of farmers^[2].

The goat keepers needed training on breeding, health care, marketing, housing and feeding to a greater extent to improve the production from goats. Hence, extension agencies should disseminate information based on training needs at the field conditions for livelihood security of the farmers^[3]. Keeping these facts in view, the present study was conducted with the specific objective that is Constraints being faced by sojat goat owners in Pali and Jalore.

Materials and Methods

The present study was carried out in the purposively selected pali and jalore districts of Marwar region of Rajasthan. A multistage stratified random sampling design was used to select the districts, tehsils, villages and sample households. On the basis of composite index of agricultural development calculated by (Rawat and Kumar,2015), then 2 dis-

tricts of the region were classified into two strata - one of the developed district (Pali) and second of poorly developed district (Jalore). The district Pali represented developed and district Jalore poorly developed district of the study area. A special gene pool of Sojat goat developed by crossing of local goat with Jamunapari in Sojat and nearby areas of Rajasthan with distinct characteristics. In the present study the plan of work include selection of districts, tehsil, villages and goat rearers. It also describes the tool for data collection, statistical measures.

Selection of Districts: The Sojat goat is mostly found in Pali and Jalore districts of Rajasthan. Therefore, both districts are purposely selected as maximum population of Sojat goats are in these districts.

Selection of tehsil: Two Tehsils from each district selected on the basis of maximum number of Sojat goats. Thus, a total four tehsils taken for the present study.

Selection of villages: A complete list of all the villages from the selected tehsils where the Sojat goat is reared by the farmers prepared with the help of personnel of department of animal husbandry. From the list so prepared, four villages will be selected on the basis of maximum number of Sojat goats are reared by the farmers.

Selection of goat farmers: For selection of respondents a list of Sojat goat owners will be collected from the agriculture supervisor, gram sevak of respective village. From the obtained list, 10 farmers of each village selected randomly. Thus, the total samples are 160 Sojat goat farmers.

Collection of data: The data collected on constraints being faced by Sojat goat farmers. Thus, a sample of 160 households was selected for the present study. The data were collected personally through a well structured and pre tested interviewed schedule from 160 goat farmers. This was also supported by the informal discussion with farmers as well as the guided field walk with them. The data thus collected were compiled, tabulated and subjected to the appropriate statistical tools to draw meaningful conclusions.

Analysis procedure: The data collected were analyzed by using appropriate statistical methods viz; averages, frequency, percentage, mean percent score, standard deviation, standard error and chi square test etc. for achieving the objective and for conclusion drawn.

Results and Discussion

Constraints faced by the sojat goat owners in the adoption of scientific management practices of goats. Adoption of technology depends upon various factors, which may either accelerate or inhibit its adoption. It is an important part of extension functionaries to identify such factors to make the dissemination of the technology in line with the livestock owners' perception and need. Therefore, the importance of the constraints, which hinder the adoption of improved goat management practices, was considered. The constraints under present investigation were considered as major impediments that restrict the owner to adopt the goat management practices in their fields.

Distribution of respondents on the basis of level of constraints

In this section an attempt has been made to know the level of constraints, the respondents were grouped into three (i) up to 67.47 score, (ii) from 67.47 to 74.08 and (iii) more than 74.08 score constraints level on the basis of calculated mean and percentage of the obtained constraints sources by the respondents. The distribution of respondents is given in (Table 1).

The data in Table 1 depicts that majority of the total respondents (76.87%) were in the severe constraints group, whereas, 11.25 per cent in least severe level of constraints and 11.88 per cent in most severe level of constraints in the study area.

Category wise constraints faced by the respondents

An effort has been made to categorize the constraint

into suitable categories. In the present investigation the constraints were categorized into five categories viz. breeding constraints, feeding constraints, housing and management constraints, health constraints and marketing constraints. The results pertaining to each category is presented in the subsequent table.

Breeding constraints faced by the respondents

The data presented in (Table 2) visualize the breeding constraints causing concern to goat keepers of the study area. It was observed that on overall basis the respondents perceived constraints due to high cost of breeding buck (MPS=75.20), repeat breeding (MPS=73.33) and delay in puberty (MPS=69.79) which were ranked as first, second and third severe constraints by a fair majority of the respondents. Further lack of knowledge in selecting breeding buck (MPS=82.43) and lack of knowledge about breeding practices (MPS=67.70) were also perceived as severe impediments as in adoption of scientific breeding practices by the goat owners which were placed at fourth and fifth priority constraints. Similarly low productivity local breeds were also causing concern to significant number of respondents (MPS=65.20) and placed at last priority by the respondents.

The major constraint was high cost of breeding buck in present study while (Gurjar and Pathodiya, 2008) reported that lack of improved breeding buck was second major constraint perceived by the goat rearers (Sabapara *et al.*, 2014). Reported that indiscriminate breeding (86.40%) non availability of improved breeding buck in market

Table 1. Distribution of respondents on the basis of their constraints regarding goat management practices (N=160)

S. No	Constraints	Frequency	%
1	Least severe (up to 67.47 score)	18	11.25
2	Severe (from 67.47 to 74.08)	123	76.87
3	Most severe (more than 74.08 score)	19	11.88

Table 2. Constraints of scientific breeding practices faced by the goat owners

S. No.	Statement	MPS	Rank
1	Delay in puberty	69.79	III
2	Repeat breeding	73.33	II
3	Lack of knowledge about breeding practices	67.70	IV
4	Low productivity of local goats	63.95	VI
5	High cost of breeding bulk	75.20	I
6	Lack of knowledge regarding selection of breeding buck	65.20	V

MPS=mean per cent score

(80.80%) end repeat breeding in females (64.80%) were major constraints (Rajkumar and Kavithaa, 2014). Observed that inadequate availability of breeding buck (non-availability of improved breeding bucks) was main constraint. (Yadav *et al.*, 2014) Stated that repeat breeding problem (96.67%) was major constraint.

Feeding constraints perceived by the respondents

The data presented in (Table 3) visualize the feeding constraints causing concern to goat keepers of the study area. It was observed that on overall basis the constraints due to high price of (MPS=88.54), lack of knowledge about balance feeding (MPS=86.66) and lack of knowledge about mineral mixture (MPS=85.41) which were ranked as first, second and third severe constraints by a fair majority of the respondents. Further non availability of green fodder (MPS=84.79), shortage of feed and fodder (MPS=84.16), lack of preservation of feed and fodder (MPS=83.33), high price of mineral mixture (MPS=82.08), shortage of grazing land (MPS=80.83) were also perceived as severe impediment as in adoption of scientific feeding practices by the goat owners which were placed at fourth, fifth, sixth, seventh and eighth priority constraints. Similarly lack of access to land for fodder production was also causing concern to significant number of respondents (MPS=80.20) and placed at last priority by the respondents.

The major constraints were high price of concentrate in present study while, (Deoghare and Kumar, 2003) stated that scarcity of grazing land was found to be most serious problem faced by goat rearers. (Sabapara *et al.*, 2014) Reported that main constraints are high prices of concentrate (89.60%) and lack of knowledge about importance of mineral mixture (87.20%) (Rajkumar and Kavithaa, 2014). Revealed that shrinking of grazing land was main constraint. (Yadav *et al.*, 2014) Reported that lack of grazing pasture land was considered as a major constraint reported by tribal's having RBQ value (98.34%) (Tanwar, 2011). Reported that the main constraint regarding feeding management was lack of knowledge about balanced feeding, high cost of feeds and fodder, lack of irrigation facilities, non availability of green fodder, lack of knowledge about importance of mineral mixture, and shrinking grazing land. Regarding breeding, main constraints were inadequate availability of breeding buck, lack of knowledge about breeding practices and indiscriminate breeding practice. With respect to health care the major constraints were lack of veterinary services in villages, high cost of treatment, ignorance about importance of deworming, lack of knowledge about common diseases and vaccination programme not carried out by any agency in semi arid part of Rajasthan. Similar findings were also reported by (Narmatha *et al.*, 2013) the scarcity of green fodder (78.57%), diminishing grazing areas

Table 3. Constraints of scientific feeding practices faced by the goat owners

S.No	Statement	MPS	Rank
1	Non availability of green fodder	84.79	IV
2	Shortage of feed and fodder	84.16	V
3	High price of concentrate	88.54	I
4	Lack of access to land for fodder production	80.20	IX
5	Lack of knowledge about balance feeding	86.66	II
6	Short age of grazing land	80.83	VIII
7	High price of mineral mixture	82.08	VII
8	Lack of preservation of feed and fodder	83.33	VI
9	Lack of knowledge about Mineral mixture	85.41	III

MPS=Mean per cent score

Table 4. Constraints of scientific housing and management practices faced by the goat owners

S.No	Statement	MPS	Rank
1	Lack of own capital	89.16	II
2	Lack of knowledge about scientific goat housing	85.20	IV
3	High cost of construction	92.08	I
4	Separate housing problem	87.29	III
5	Improper ventilation	84.17	V

(77.86%) in Namakkal district of Tamil Nadu. (Poornima *et al.*, 2015). Observed that the High cost of mineral mixture was cited by the respondents as the next most important constraint followed by non-availability of green fodder throughout the year and high cost of fodder in Almora district of Uttarakhand (Suresh *et al.*, 2008). Also reported that major constraints in the input side were fodder scarcity, high price of feed as well as unavailability of quality medicines in semi-arid region of Rajasthan. The results of present study are also collaborating with the findings of (Jana *et al.*, 2014), (Rawat, Kumar, 2015) and (Sabapara *et al.*, 2014).

Housing and management constraints faced by the respondents

The data presented in (Table 4) visualize the breeding constraints causing concern to goat keepers of the study area. It was observed that on overall basis the constraints due to high cost of construction (MPS=92.08), lack of own capital (MPS=89.16) and separate housing problem (MPS=87.29) which were ranked as first, second and third severe constraints by a fair majority of the respondents. Further lack of knowledge about scientific goat housing (MPS=85.20) were also perceived as severe impediment as in adoption of scientific housing and management practices by the goat owners which were placed at fourth priority. Similarly improper ventilation was also causing concern to significant number of respondents (MPS=84.17) and placed at last priority by the respondents.

In the present study the major constraint was high cost of construction while, (Mohan and Singh, 2004) reported that limited space for housing was major constraint (Gurjar *et al.*, 2008). Observed that lack of credit facility and lack of knowledge about scientific goat rearing practices ranked third and fourth constraint respectively (Sabapara *et al.*, 2014). Reported that high construction cost (82.80%) was most important constraint followed by high interest

rate (82.40%) on loan.

Health care constraints faced by the respondents

The data presented in (Table 5) visualize the health care constraints causing concern to goat keepers of the study area. It was observed that on overall basis the constraints due to parasitic problem in goat (MPS=83.75). Costly veterinary treatment (MPS=81.45) and long distance about veterinary hospital (MPS=79.58) which were ranked first, second and third severe constraints by a fair majority of the respondents. Further lack of veterinary services in the village (MPS=77.91) and lack of knowledge about deworming (MPS=76.25) were also perceived as severe impediment as in adoption of scientific health care practices by the goat owners which were placed at fourth and fifth priority constraints. Similarly lack of knowledge about health care was also causing concern to significant number of respondents (MPS=75.41) and placed at last priority by the respondents.

In present study major constraint was parasite problem in goat (Deoghare and Kumar, 2003). Reported that disease prevalence in different villages had different pattern (Rajkumar and Kavithaa, 2014). Stated that lack of facilities for treatment, vaccine and medicine, lack of veterinary dispensaries and poor knowledge of scientific management and animal health care practices.

Marketing constraints faced by the respondents

The data presented in Table 6 visualize the marketing constraints causing concern to goat keepers of the study area. It was observed that on overall basis the constraints due to low market price of goat and buck (MPS=60.62), lack of organized market for buck sale infrastructure (MPS=58.75) and less transportation and communication facility (MPS=55.20) which were ranked as first, second and third severe constraints by a fair majority of the respondents. Further lack of co-operative societies in village

Table 5. Constraints of scientific health care practices faced by the goat owners

S.No	Statement	MPS	Rank
1	Parasitic problem in goat	83.75	I
2	Lack of knowledge About deworming	76.25	V
3	Lack of veterinary services in the village	77.91	IV
4	Costly veterinary treatment	81.45	II
5	Long distance about veterinary hospital	79.58	III
6	Lack of knowledge about health care	75.41	VI

Table 6. Constraints of scientific marketing practices faced by the goat owners

S.No	Statement	MPS	Rank
1	Low market price of goat and buck	60.62	I
2	Less transportation and communication facility	55.20	III
3	Lack of organized market for buck sale infrastructure	58.75	II
4	Lack of co-operative society in village	52.70	IV
5	Lack of Knowledge about marketing points	48.54	V

(MPS=52.70) were also perceived as severe impediment as in adoption of scientific marketing practices by the goat owners which were placed at fourth priority constraints. Similarly lack of knowledge about marketing points was also causing concern to significant number of respondents (MPS=48.54) and placed at last priority by the respondents.

In present study the major constraint was low market price of goat and buck while (Sabapara *et al.*, 2014) reported that lack of marketing infrastructure (89.60%) and middle man not providing remunerative price to male kids (86.40 %) were most important constraints.

Overall constraints faced by the goat owners

To get an overview of constraints perceived by the goat owners, the overall scope for each category was pooled and results have been presented in Table 7.

The data presented in Table 7 revealed that among the selected constraints methods Housing and management constraints were used up to greatest extent by the goat owners with (MPS=87.58). These were followed by feeding constraints with (MPS=84.0). However, the extent of health care constraints with (MRP=79.06), breeding constraints with (MRP=69.20) and marketing constraints with (MPS=55.16) of goat owners in the study area.

The marketing practice was first main constraint while, (Sabapara *et al.*, 2014) revealed that marketing was the main constraint (85.30 %) followed by feeding, healthcare, breeding and housing as (84.80%),

Table 7. Overall distributions of respondents on the basis of their constraints level regarding goat management practices being faced by the respondents

S. No	Practices	MPS	Rank
1	Breeding	69.20	IV
2	Feeding	84.00	II
3	Housing and management	87.58	I
4	Health care	79.06	III
5	Marketing	55.16	V

(77.04%), (76.00%) and (74.64%) faced by goat owners respectively.

Conclusion

In this study it is concluded that housing and management constraints were faced to greatest extent by the goat owners with (MPS=87.58). These were followed by feeding constraints with (MPS=84.00), health care constraints with (MRP=79.06), breeding constraints with (MRP=69.20) and marketing constraints with (MPS=55.16) of goat owners in the study area. The government of Rajasthan should make some efforts to solve these constraints faced by the goat owners so that goat owners may be profited by goat rearing in the study area by the alleviation of such types of constraints because in the study area the goat rearing is the main source of income for their livelihood.

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Conflict of Interests

Authors show no conflict of interest.

Author Contributions

D. K. Bagri: Field visits, data collection, statistical analysis and manuscript preparation; Lokesh Gupta: Research planning, supervision and helps in manuscript preparation; D. L. Bagdi and G.K. Bagri: manuscript review and helps in its preparation.

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