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STUDY ON GOAT MANAGEMENT PRACTICES IN NORTH –WEST SEMI ARID REGION OF RAJASTHAN

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ABSTRACT

The present investigation was conducted in north-west semi arid region of Bikaner district of Rajasthan. Two tehsils Khajuwala and Pugal were selected which are situated in irrigated area of Indira Gandhi canal in North West of Bikaner. From each tehsil, four villages were selected randomly and from each village fifteen goat rearers were selected thus making a sample of 120 goat rearers.

The study revealed that majority of goat rearers 77.50 per cent belong to Hindu religion, whereas 48.33 per cent goat rearers belong to backward caste and 81.67 per cent respondents live in nuclear families. The family size of surveyed respondents was more than 5 members in 62.50 per cent families and 65.0 per cent respondents were in 35-60 years age group. Overall 56.66 per cent goat rearers were illiterate. The main source of irrigation was canal for 85.0 per cent respondents. Overall 52.50 per cent goat rearers were get media information.

Majority of goat rearers at 65.84 per cent were depends on Agriculture and Animal Husbandry as an occupation. Survey results indicated that overall 88.34 per cent respondents were land holders. Respondents in surveyed area had 60.50 per cent goats in comparison to other species of Animal. Maximum goat keepers at 36.66 per cent earned annual income from goat rearing occupation was recorded as Rs. 10000-30000 and 38.34 per cent respondents got overall income Rs.25000-60000.

Women played very important role in many goat husbandry practices like sale of milk, milking, cleaning, feeding and care of young stock that were 81.66, 75.0, 74.16, 50.83 and 48.33 per cent respectively whereas, sale of animal, control of endo-parasites, breeding, control of ecto- parasites and grazing were performed at 89.16, 77.50, 75.83, 60.0 and 45.0 per cent, by men, respectively. Children usually assisted in all these practices.

Most of the goat rearers at 90.0 per cent housed their goats in shed attached to their residence and had Kaccha shed (95%) with Kaccha boundary wall (73.33%) and Kaccha floor (93.33%) with thatched roof (97.50%). Most of the goat rearers did not have water trough (97.50), urine drainage (87.50%) and feeding manger (72.50%) in goat sheds. Majority of goat rearers at 80.33 per cent did not use bedding material for goats but 98.33 per cent respondents provided protection against cold through different methods. Significant effect of flock size was observed on availability and type of feeding manger.

Semi stall feeding was adopted by maximum respondents at 80.0 per cent and goats were usually grazed on community pasture land for more than 5 hours daily. Most of the goat rearers neither protected pasture land nor preserve the tree leaves. The green fodder was offered by 88.34 per cent goat rearers. Lopping of trees was a routine practice for grazing. Majority of goat keepers provided 100-200 gm. concentrate prior to milking to their goats and 84.16 per cent respondents used cereals like wheat or bajra as concentrate.
Maximum goat rearers were not aware to provide mineral mixture and common salt feeding. Significant effect of goat flock size was observed on mode of feeding, grazing site, grazing hours and green fodder provided to different category of animals.

The majority at 65.0 per cent of goat keepers were aware about heat detection. The age at first mating was recorded as 12-18 months maximum in 75.0 per cent goats. Only natural service was used for breeding due to non-availability of artificial insemination services in goats. Maximum respondents at 70.83 per cent have their own breeding buck. About 51.66 per cent respondents reported heat during rainy season.

Maximum goat rearers 84.16 per cent confirm the pregnancy in goats by enlargement of abdomen. Pregnant goats were also housed with other animals and send for grazing in pasture with the flock. Most of goat rearers at 90.83 per cent did not adopted Castration of male kids. Physical appearance was used as a criterion for selection of breeding buck by 91.66 per cent goat rearers.

The association of flock size with keeping own breeding buck and selection of breeding buck was highly significant whereas, association with rest of the breeding practices with flock size was non-significant.

Majority of goat rearers at 68.34 per cent practiced deworming while 41.66 goat rearers did not adopt control of external parasites through scientific measures. The effect of flock size on health care practices viz. use of veterinary facility, isolation of sick animals, deworming, vaccination, sanitation of shed and control of external parasites was non-significant.

Most of goat rearers preferred to sale their animals in own village round the year on the basis of physical appearance and maximum goat milk was used by owners for their home consumption. Marketing practices like marketing of goat, time to market the animal, selling criteria and use of goat milk were non-significant.

Maximum goat keepers at 65.83 per cent were not aware about Cleaning of kids after birth and only 3.33 per cent were well aware about disinfection of naval cord. Colostrum feeding to kid and suckling of kid for more than 3 month was practiced by 98.33 and 62.50 per cent goat rearers, respectively. About 74.16 per cent respondents were not aware about control of external parasites. Isolation of kids was not followed by 92.50 per cent respondents. Flock size was not affected significantly by all above mentioned kid rearing practices.

The most serious constraints perceived by the goat rearers in the study was lack of grazing area followed by lack of credit facility, Inadequate price for animal, and lack of improved breeding buck respectively in the area surveyed.
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Interview Schedule

RAJASTHAN UNIVERSITY OF VETERINARY & ANIMAL SCIENCE
Interviewer: VIJAY KUMAR

1. Family status of goat rearers:
   1. Name of Goat rearers ___________ 2. Caste ______________
   3. Category - SC/ST/OBC/General ___________ 4. Age ___________
   5. Village ___________ 6. Tehsil ___________
   7. District ___________ 8. Religion ______________
   9. Main Occupation- Service/Business/Agri. /AH. /Agri. + AH. ___________
   10. Education - (A) Illiterate (B) Primary (C) Middle (D) Metric and above
   11. No. of family members - (a) Man (b) Women (c) Male child (d) Female child total ___________
   12. Type of family - Joint/Nuclear
   13. Family size - Small (up to 5)/ Large (above 5)
   14. Annual income from Goat husbandry Rs. ___________
   15. Annual income from other sources Rs. ___________
   16. Annual Total Income Rs. ___________
   17. Category of land holding in hectare:
      (A) Landless
      (B) Less than 2 ha
      (C) 2-4 ha
      (D) Above 4 ha
   18. Irrigation source ____________________________
   19. Media information: Yes/No.
   20. Flock size of Goat

<table>
<thead>
<tr>
<th>Category</th>
<th>Young Male</th>
<th>Young Female</th>
<th>Adult Female</th>
<th>Breeding male</th>
<th>Total</th>
</tr>
</thead>
</table>
21. Breed of Goat

<table>
<thead>
<tr>
<th>Goat</th>
<th>Marwari</th>
<th>Any Other</th>
<th>Total</th>
</tr>
</thead>
</table>

2. **Goat Management Practices:**

[A] **Housing**

1. Site of housing
   (a) Attached with residence
   (b) Away from residence
2. Mode of housing
   (a) Mixed all
   (b) Separately
3. Housing time
   (a) Day
   (b) Night
4. Type of Shed
   (a) Kaccha
   (b) Pucca
   (c) Kaccha+Pucca
   (d) No shed
5. Type of floor
   (a) Kaccha
   (b) Pucca
   (c) Kaccha+Pucca
6. Type of roof
(a) Thatch  
(b) Asbestos  
(c) Cement Concrete  
(d) Iron sheet  
7. Water trough: Yes/No  
8. Source of drinking water:  
   (a) johar (kaccha)  
   (b) Well/Tubewell  
   (c) Common water through (Panchayati)  
   (d) Canal  
9. Feeding manger in the shed: Available/No available  
10. Urine drainage: Yes/No  
11. Ventilation available: Yes/No  
12. Housing of Breeding Buck:  
   (a) Separate  
   (b) With all animals  
   (c) Not available  
13. (A) winter bedding material used: Yes/No  
   (B) Type of bedding material used: Dry sand  
      - Crop waste products/Waste fodder  
14. Protection of animals from cold climate:  
   - Tying under closed house: Yes/No  
   - By artificial thatched house  

[B] FEEDING  
1. Mode of Feeding of goats  
   (a) Complete stall feeding  
   (b) Semi stalls feeding
(c) Complete grazing

2. Grazing site
   (a) Own land
   (b) Community land

3. Grazing time in hours:
   (a) <5 hrs
   (b) > 5 hrs

4. Common vegetation found in the area for feeding of goat

5. Protection of pasture land: Yes/No

6. Preservation of trees leaves (Pala): Yes/No

7. Green fodder provide to different category:
   (a) Whole flocks
   (b) Only milking goat
   (c) Only Kid
   (d) No

8. Type of green fodder offered for feeding
   Rabi Kharif
   (a) Lucerne Jowar
   (b) Berseem Bajara
   (c) Weeds Maize
   (d) Monsoon grass

9. Lopping of the trees:

10. Common top feed available in your area:

11. Feeding of dry fodder to goat: Yes/No

12. Name of common grain crop cultivated in area:

13. Concentrate feeding to the goats: Yes/No

14. Type of concentrate used for goat feeding
(a) Cake
(b) Cereals
(c) Mixed Type

15. Quantity of concentrate mixture fed per day to different category of goat:
(a) Milking
(b) Dry
(c) Bucks
(d) Advance pregnant

16. Do you provide extra concentrate (fattening ration) to the kids reared for meat purpose? Yes/No

17. Feeding of mineral mixture: Yes/No

18. Feeding of common salt: Yes/No

19. Time of feeding concentrate of milking doe-
(a) No
(b) Prior to milking time
(c) During milking

[C] BREEDING PRACTICES
1. Heat detection in flock Yes/No.
2. Method of matting- Natural/Al
3. Do you have own breeding buck: Yes/No
4. How long a buck is used for breeding in a flock
5. Pregnancy detection Yes/No
6. Maximum animals come in heat in which season of the year
(a) Summer
(b) Rainy
(c) Winter
7. Selection of breeding male: Own Flock/Out side
8. What extra care/precaution do you take of pregnant animal
   (i) Housing: (a) Separate (b) Group
   (ii) Grazing: (a) Not allowed (b) Allowed
   (iii) Prepartum rations (a) Yes (b) No
   (iv) Veterinary aid during kidding (a) Required (b) Not Required

9. Do you castrate the male kids?

10. Criteria of selection of breeding bucks
    (a) Body weight/health
    (b) Milk yield of dam
    (c) Physical appearance/breed characteristic of bucks

11. Age at first matting _________________________

12. Treatment of anestrous? Yes/No

13. Treatment of repeaters? Yes/No

14. How many goats are covered by one buck in season? _________________________

[D] HEALTH CARE

1. Use of Veterinary facilities Yes/No

2. Do you isolate sick animals Yes/No

3. Do you practice Deworming? Yes/No

4. How many times do you practice deworming in animals per year?
   (a) Once
   (b) Twice
   (c) Three times

5. Name of medicine used for deworming : _________________________

6. Practice of vaccination: Yes/No

7. What are the important diseases of goat against which vaccination is done?
8. Name common disease occurring in your flock
(a) _________________________
(b) _________________________
(c) _________________________
(d) _________________________

9. What measures are taken for treatment of animals
(a) _________________________
(b) _________________________
(c) _________________________
(d) _________________________

10. Do you disinfectant goat shed? Yes/No

11. How do you dispose a carcass?
(a) By throwing out the village premises
(b) By burning it
(c) By deep burial
(d) Leave is as such to decay

12. How do you control external parasite of the animals?
(a) By dipping
(b) By dusting insecticides in powered form
(c) None of above

[E] MARKETING

1. Do you sale your animals? Yes/No

2. If your answer is yes then where do you market the animals?
(a) In the village itself
(b) Taking them to near mandi or city
3. When do you market you animals?
   (i) Round the year
   (ii) On special occasion
4. What is the age when male kid sold?
   (a) At 6 months
   (b) Below 6 months
   (c) Above 6 months
5. What are the criteria of fixing rate?
   (a) By weight basis
   (b) By physical appearance
6. Use of Goat Milk: Home use/Sale alone/Mixing with cattle, Buffalo milk

[F] KID REARING PRACTICES
1. Do you clean kid after birth: Yes/No
2. Disinfection of navel chord Yes/No
3. Feeding of colostrum to kid: Yes/No
4. Duration of kid suckling to doe: (a) 3 months (b) Above 3 months
5. When you start solid feeding to kid
   (a) Within 15 days
   (b) 15 to 30 days
   (c) Above 30 days
6. Deworming of kid Yes/No
7. How you control external parasite of kid: Manual/Chemicals/Traditional/No practiced
8. Housing of kid: (a) With doe (b) Separate
9. Isolated of male/female kid: Yes/No
10. When you send kid for grazing
   (a) Within 30 days age
   (b) 30-45 days age
   (c) Above 45 days age
### ROLE OF MAN/WOMEN/CHILDREN IN GOAT HUSBANDRY ACTIVITIES:

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<thead>
<tr>
<th>S.No.</th>
<th>Activities</th>
<th>Man</th>
<th>Women</th>
<th>Children</th>
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<td></td>
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<td>Active</td>
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<tr>
<td>1.</td>
<td>Feeding</td>
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<td>2.</td>
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<td>3.</td>
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<td>4.</td>
<td>Grazing</td>
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<td>5.</td>
<td>Sale of Animals</td>
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<td>6.</td>
<td>Sale of milk</td>
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<td>7.</td>
<td>Care of young stock</td>
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<td>8.</td>
<td>Breeding operation</td>
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<td>9.</td>
<td>Care of sick animal</td>
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<td>10.</td>
<td>Ecto-parasites</td>
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<td>11.</td>
<td>Indo-parasites</td>
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### CONSTRAINTS IN ADOPTION OF IMPROVED GOAT HUSBANDRY PRACTICES:
1. Lack of credit facility
2. High cost of veterinary aid
3. Illiteracy
4. Lack of improved breeding buck
5. Lack of grazing area
6. Non-availability of green fodder
7. Lack of knowledge about scientific goat rearing
8. Higher kid mortality
9. Inbreeding
10. Inadequate price for the animals

Appendix 2. : RBQ Values of different constraints perceived by farmers in Khajuwala tehsil

<p>| Rank | Code | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ | fi  | RBQ |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1    | 5    | 8.33| 10  | 15.00| 0  | 0.00| 5  | 5.83| 4  | 4.00| 4  | 3.33| 2  | 1.33| 11  | 5.50| 2  | 0.67| 12  | 2.00| 54.33| 60  | 5|
| 2    | 10   | 16.67| 10  | 15.00| 0  | 0.00| 5  | 5.83| 4  | 4.00| 4  | 3.33| 2  | 1.33| 11  | 5.50| 2  | 0.67| 12  | 2.00| 63.16| 60  | 2|</p>
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Appendix 3. : RBQ Values of different constraints perceived by farmers in pugal tehsil

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Introduction
Review of Literature
Material and Methods
Results and Discussion
Summary & Conclusion
Literature Cited
ABSTRACT
(English and Hindi)
Appendices
Table 4.24  Housing practices of respondents across flock size
13. Housing of breeding buck

- Large
- Medium
- Small

Separately
With all animals
Not available
14. Winter bedding

- Yes
  - Large
  - Medium
  - Small

- No
  - Large
  - Medium
  - Small
15. Protection against cold
Fig. 16-30 Feeding practices of respondents across flock size

16. Mode of feeding

17. Grazing site
20. Preservation of tree leaves

21. Green fodder provided to different category
22. Type of green fodder used for feeding

23. Lopping of the tree
24. Feeding of dry fodder

25. Concentrate feeding
28. Fattening ration

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% of respondents
29. Feeding of mineral mixture

- Yes
- No

Responses:
- Large
- Medium
- Small
30. Feeding of common salt

% of respondents

Yes  No

- Large
- Medium
- Small
Fig. 31-42  Breeding practices of respondents across flock size

31. Breeding buck

32. Selection of breeding buck
Management of pregnant doe

33. Breeding season

34. Pregnancy confirmation
Fig. 43-48 Health care practices of respondents across flock size

43. Use of veterinary facilities

44. Isolation of sick animals
Fig. 49-52 Marketing practices of respondents across flock size

49. Marketing

50. Time to market the animal
Fig. 53-62 Kid rearing practices of respondents across flock size

53. Cleaning of kid after birth

54. Disinfection of naval cord