

RESEARCH NOTE

Management Practices and Perceived Constraints in Goat Rearing in Burdwan District of West Bengal

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ABSTRACT

A study was conducted in order to analyze goat rearing practices prevailing in the district and to identify the constraints in goat farming through collection of data from 150 respondents from Burdwan district. The data pertaining to reasons for taking up goat farming, goat rearing practices being followed and constraints being faced were collected with the help of semi-structured interview schedule after ensuring its reliability and validity. Getting remunerative price from the each animal reared on low or no cost input was the most important (81.78 MPS) reason for rearing of Bengal goat. Most of the goat keepers (90%) reared their animals following semi-intensive system in kachcha houses (69.33%) which were constructed separately with locally available low-cost materials. Floor of goat shed in most of the cases (56.67%) was earthen and roof had traditional thatch (56.67%). Almost half of the respondents (51.33%) maintained their goats by allowing grazing for 4 – 6 hours per day and offering vegetable waste, vegetables and crop residues alongwith tree leaves. Most of the goat farmers (57.33%) vaccinated their goats against major diseases like goat pox, peste des petits ruminant and foot and mouth disease. Lack of pure breed buck (Rank I), high incidence of diseases (Rank II) and lack of capital to start a goat farm (Rank III) were perceived to be the major constraints by the goat rearers.

Key words: Goat; Rearing; Practices; Constraints;

Goat is widely distributed in all agro-ecological zones of India and plays a very vital role in the livelihood security of the small and marginal farmers and landless agricultural labourers. West Bengal has 150.69 lakhs goats (Anonymous, 2007), out of which 9.34% is reared in Burdwan district and these are mostly of Bengal breed. The farmers are commonly rearing goats under traditional system using low or no cost inputs. Locating nearer to the metropolitan market and easier accessibility to input and output markets, this district has a great potential for flourishing of goat rearing. Keeping these facts in view, the present benchmark study was carried out to investigate the important reason(s) for goat rearing, management practices, marketing pattern and to identify the constraints perceived by goat rearers in Burdwan district of West Bengal.

METHODOLOGY

The present study was conducted in three blocks

of Burdwan district of West Bengal. The district is classified into three strata on the basis of agro-ecological situation; one block from each of these strata was purposively selected by stratified random sampling technique. Two villages from each block were randomly selected for data collection. In this way, a total of 150 respondents from six villages constituted the sample of the present study. These respondents were interviewed by researchers with the help of semi-structured questionnaire developed for the purpose and the reliability and validity of the questionnaire was ensured. The data were collected over a period of two years and the collected data were analyzed using suitable statistical procedures like frequency distribution, percentage, mean per cent score and rank as described by *Snedecor and Cochran (1994)*.

RESULTS AND DISCUSSION

Reasons of goat rearing : The important reasons behind

rearing of goats, listed with respective ranks, revealed that most of the respondents maintained their goat for getting remunerative price from each animal using low or no cost input which was ranked as first (Table 1). Year-round good market demand was ranked by the farmers as the second most important reason. Other reasons behind goat rearing namely to support collateral family income, no religious taboo on rearing and consumption, ease of goat handling and flexibility in household consumption were also ranked as third, fourth, fifth and sixth important reasons, respectively.

Table 1. Reasons for goat rearing by farmers (N=150)

| Reasons | MPS | Rank |
|---|-------|------|
| Get remunerative price using low cost inputs | 81.78 | I |
| Support collateral family income | 69.11 | III |
| Household consumption | 37.11 | VI |
| No religious taboo on rearing and consumption | 56.00 | IV |
| Year-round good market demand | 73.78 | II |
| Ease in handling of animals | 55.33 | V |

System of rearing and housing practices: Maximum goat keepers (90.00%) reared goats in semi-intensive system whereas few (10.00%) followed free range system of rearing and no respondent followed intensive system of rearing. The reason behind non-adoption of intensive system of rearing might be the initial high cost involvement and lack of knowledge about scientific goat rearing (Table 2). Majority of goat keepers (45.33%) reared goat by constructing a separate shed for goat and 38.00 per cent respondents housed the goats with other animals like cattle and sheep whereas 16.67 per cent respondents kept the goats in night by sharing their own premises (Table 2). It was revealed that majority of goat keepers (69.33%) kept their goats in kachcha house whereas 18.00 per cent respondents using bamboo or wire net particularly in flood prone areas of the district. It was found that 12.67 per cent respondents kept the goats in pucca houses. The floor of the shelter of majority keepers (56.67%) was earthen but 30.00 per cent respondents made floor with brick plaster for better cleaning and washing and only 13.33 per cent of goat raisers used cemented floor for effective cleaning and management. Maximum respondents (54.67%) made traditional thatch for roofing of goat shed using paddy straw and dried palm tree leaves. Iron sheet, mud tiles and corrugated asbestos were also used as roof materials by 18.00, 14.00 and 11.33 per cent respondents, respectively.

Table 2. Management practices (N=150)

| Variables | Categories | No. | % |
|---------------------------|--|-----|-------|
| Rearing | Free range | 15 | 10.00 |
| | Semi-intensive | 135 | 90.00 |
| | Intensive | 0 | 0.00 |
| Type of house | Kachcha | 104 | 69.33 |
| | Pucca | 19 | 12.67 |
| | Bamboo-made/ wire-netted | 27 | 18.00 |
| Night shelter | Constructed separately | 68 | 45.33 |
| | Keeping with other animals | 57 | 38.00 |
| | Goats share with owner | 25 | 16.67 |
| Floor | Earthen | 85 | 56.67 |
| | Cemented | 20 | 13.33 |
| | Brick plaster with clay | 45 | 30.00 |
| Roofing material | Corrugated asbestos | 17 | 11.33 |
| | Iron sheet | 27 | 18.00 |
| | Mud tiles | 21 | 14.00 |
| Feeding | Traditional thatch | 85 | 56.67 |
| | Wholly pasture-fed | 21 | 14.00 |
| | Grazing with concentrate | 52 | 34.67 |
| Watering | Grazing with vegetable waste and crop residues | 77 | 51.33 |
| | Daily | 130 | 86.67 |
| | Frequently | 20 | 13.33 |
| Breeding | Home generated | 95 | 63.33 |
| | Procured from market | 21 | 14.00 |
| | Procured from local | 28 | 18.67 |
| Breeding buck | From government farm | 6 | 4.00 |
| | Use same buck | 70 | 46.67 |
| | Regularly change buck | 62 | 41.33 |
| Treatment and vaccination | Use buck of other breed | 10 | 6.67 |
| | Unknown source | 08 | 5.33 |
| | No curative and preventive | 19 | 12.67 |
| Birth weight | Treatment undertaken | 45 | 30.00 |
| | Vaccination and disinfection | 86 | 57.33 |
| | Less than 1 kg | 10 | 6.67 |
| No. of kid per birth | 1 – 1.5 kg | 110 | 73.33 |
| | Above 1.5 kg | 30 | 20.00 |
| | 1 | 18 | 12.00 |
| Kidding interval | 2 | 97 | 64.67 |
| | >2 | 35 | 23.33 |
| | <8 months | 35 | 12.00 |
| Age of castration in male | 8 – 10 months | 95 | 64.67 |
| | >10 months | 20 | 23.33 |
| | 2 – 4 weeks | 14 | 9.33 |
| Age of selling | 5 – 7 weeks | 115 | 76.67 |
| | Above 7 weeks | 21 | 14.00 |
| | 6 – 8 months | 12 | 8.00 |
| | 9 – 11 months | 70 | 46.67 |
| | Above 11 months | 68 | 45.33 |

Feeding and watering: More than half of the respondents (51.33%) maintained their goats by daily allowance of 4-6 hours grazing and offering vegetable waste and crop residues and tree leaves. Some of them (34.67%) allowed little grazing to their goats along with supplementation of concentrate feed particularly cereal grains namely broken rice, wheat bran, gram chuni etc. Fourteen per cent of respondents maintained their goats upon sole grazing at daytime on surrounding of houses, village alleys, canal side, and river-side forest area. The major crop residues, used to feed goats, were paddy straw and green maize plant after harvesting ear-corn. Use of paddy straw for feeding of animals was also reported by Singh *et al.* (2009). The vegetable wastes like leaves of cauliflower, cabbage, radish, carrot and water spinach were mainly brought from fields and vegetable markets. The main tree leaves usually offered were leaves of jackfruit (*Artocarpus heterophyllus*), subabul (*Leucaena leucocephala*), babul (*Acacia arabica*), drum stick, banana (*Musa paradisiaca*), banyan tree (*Ficus bengalensis*), peepul tree (*Ficus religiosa*), mango (*Mangifera indica*), neem (*Azadirachta indica*) and ber (*Zizyphus* spp.) The most prevalent grasses were doob (*Cyanodon dactylon*) and motha (*Cyperus defformis*). Drinking water was provided to goat daily by 86.67 per cent animal keepers and few (13.33%) offered water irregularly. The requirement of water might be mitigated through drinking from canal, pond and river etc. during grazing.

Breeding and production traits: Breeding and production traits of the goats reared in this district (mostly of Black Bengal breed) were depicted in Table 2. Most of the respondents (63.33%) maintained parent stock at their home. But sometimes they procured their parent stock from markets (14.00%), nearby villages (18.67%) and Government farms (4.00%) This indicated their tendency towards replacing the parent stock. Regarding use of buck, 46.67% respondent used same buck of same breed available in villages for mating purpose. Some (41.33%) respondents regularly changed the buck of same breed for the purpose. Few respondents (6.67%) used buck of other breed for crossbreeding purpose and 5.33 percent respondents informed that does were conceived from unknown source of buck during grazing and loitering.

Maximum respondents (73.33%) received kids of 1.0-1.5 kg birth weight and 20.00 per cent farmers

received kids with more than 1.5 kg birth weight whereas few (6.67%) received kids with less than 1.0 kg birth weight (Table 2). Majority of respondents (64.67%) received 2 kids per birth whereas 33.33 and 12.00 per cent respondents received more than 2 kids and 1 kid per birth, respectively. Maximum number of goat raisers (64.67%) pointed out that kidding interval was 8-10 months whereas 23.33 per cent raisers noticed kidding interval above 10 months. Goats of few (12.00%) respondents had kidding interval of less than 8 months. This variation might be attributed to different plan of nutrition as well as reproductive health. Castration of male kids was done at 5-7 weeks of age (by 76.67% of goat rearers) and at more than 7 weeks of age (by 14.00 % goat raisers), whereas only 9.33 per cent respondents castrated their kids at 2-4 weeks of age which was appropriate for castration in terms of better growth and minimum pain. Nearly half of the goat farmers (46.67%) sold their goats at above 11 months of age but few farmers (8.00%) sold their goats at age of 6-8 months. **Health care :** Most of the farmers (57.33%) in the district area vaccinated their goats against major diseases like Goat pox, *Peste des Petits Ruminants*, Foot and Mouth Disease at vaccination camp, conducted by Government agencies (Table 2). Simultaneously, they also disinfected animal shed from time to time for effective control of major diseases. Some respondents (30.00%) made arrangements for treatment of animals during ailment. But few respondents (12.67%) did not take any curative and preventive measures at the time of illness of animals; these might be due to poor economical situation or ignorance.

Table 3. Constraints faced by goat rearers (N = 150)

| Constraints | MPS | Rank |
|--|-------|------|
| High incidence of disease | 77.78 | II |
| Lack of pure breed buck | 78.67 | I |
| Inbreeding | 51.11 | VIII |
| Non-availability of green fodder | 66.67 | VI |
| Shrinkage of grazing land | 65.78 | VII |
| Lack of knowledge about goat rearing | 73.33 | IV |
| Attack of predators at 1st stage of kid's life | 31.11 | X |
| Lack of space for housing | 68.89 | V |
| Complaints by neighbours | 44.44 | IX |
| Lack of capital to start a goat farm | 76.89 | III |

Constraints: It was revealed from the study that lack of pure breed buck was the most important situation constraint and was ranked first by respondents (Table 3). Similar

observations were also reported by *Singh et al. (2008)* for Bengal goats. It might be due to high market demand of castrated males. The second most important problem perceived by the respondents was high incidence of diseases. These observations were in agreement with those of *Singh et al. (2008)*. This was followed by the problem of lack of capital to start goat farm which was placed as third by animal raisers. Similar finding was also reported by *Guljar and Pathodiya (2008)* in Rajasthan and by *Meganathan et al. (2010)* in Tamil Nadu. Lack of knowledge about scientific goat rearing ranked as fourth constraint faced by respondents of Burdwan district.

The constraint like shortage of space for farming, non-availability of green fodder and shrinkage of grazing land were assigned as fifth, sixth and seventh ranks, respectively. Constraint of non-availability of HYV fodder seed in Burdwan district was also reported by *Roy et al. (2006)*. Inbreeding was another problem experienced by respondents and it was placed as eighth rank. It might be due to use of limited number of bucks

over large population for a long period. Constraints like complaints by neighbours and attack of predators at first stage of life were accorded ninth and tenth rank, respectively by the respondents. Lack of pure breed buck was found to be the most serious constraint followed by high incidence of diseases.

CONCLUSION

Therefore, the present study described the various attributes of goat production system. In spite of wider prospects of goat production in the district, there were many constraints perceived by goat keepers of Burdwan district of West Bengal. Most of the goat farmers (57.33%) vaccinated their goats against major diseases like Goat pox, *Peste des Petits Ruminant* and Foot and Mouth Disease. The major constraints perceived by the goat rearers are Lack of pure breed buck (Rank I), high incidence of diseases (Rank II) and lack of capital to start a goat farm (Rank III).

Paper received on : January 12, 2014

Accepted on : March 22, 2014

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