Socio-Economic Profile and Management Practices Adopted by Sheep Farmers in Dhubri Distrct of Assam

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ABSTRACT

A study was carried out among sheep farmers in Dhubri district of Assam on socio-economic status and management practices adopt1ed by them. Altogether 120 numbers of farmers were selected randomly from two blocks of this district. The data were collected through personal interview method with the help of a well-structured, comprehensive and pre-tested interview schedule. Most of the sheep farmers were illiterate and belonged to middle age group. Majority (65.00%) of the respondents had agriculture as their main occupation. Majority (73.33%) of the respondents had low annual income followed by medium annual income (22.50%) and high annual income level (4.16%). The study revealed that sheep were sheltered during night only. There was no separate housing for the sheep alone. Sheep were let loose in the morning and returned back to the night shelter before evening when there was no crop in the field. During flood, the animals were shifted to an elevated area and were mostly fed with tree leaves such as jackfruit, mango, neem, guava, banana, and babool. During rainy season, when most of the fields were waterlogged, they even graze in knee deep condition in marshy land. Due to grazing in marshy land during rainy season, they were highly prone to parasitic infection particularly liver fluke infection. During flood, most of the sheep died due to severe starvation. Majority of the farmers reported two breeding seasons in sheep viz. June-August and January-March. None of the farmers vaccinated their sheep in the study area. Hence, there is an urgent need to adopt improved management practices to exploit the production potential of this local sheep. By adopting improved management practices, better growth could be achieved, which will ultimately increase the income of the rural poor.

Key words: Sheep**,** education, management practices, deworming.

INTRODUCTION

Sheep is a small, calm and versatile ruminant and is reared mainly for wool, meat and skin production in India. People of some regions are raising sheep as domestic animal for fulfilling family nutrition demand and business purpose from the ancient time. However, sheep rearing is not popular in India as in Australia and New Zealand. They have an excellent ability to survive over a prolonged period of drought and semi starvation and are less prone to extreme weather conditions, ecto-parasites as well as other diseases. Because of their hardiness and adaptability to dry conditions, the north-western and the Southern

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peninsular regions of the country have a large concentration of sheep. Assam has the sheep population of 5.18 lakhs the highest among the North-eastern states (BAHS, 2016), and more than 75 per cent of which are distributed in lower Assam. The Dhubri district possesses the maximum (22.81%) followed by Barpeta (18.85%) and Darrang (8.0%). Most of the landless, marginal and small farmers are rearing sheep and goat which provide substantial additional source of income particularly during agricultural lean period. The local sheep of Assam predominantly brown in colour, smaller in size produces low fat mutton, rough wool and good quality skin. The information on existing sheep husbandry practices are insufficient at present lacking which hinder the extension workers as well as policy makers to formulate an effective production strategies. Hence a study was undertaken with the objective of knowing the socio-economic status of sheep farmers, studying the existing sheep husbandry practices followed by the farmers and analyzing the disease occurrence in sheep.

MATERIALS AND METHODS

The Dhubri district of Assam was selected purposively for the study as it has the highest sheep population among the districts of State. Two blocks *viz.* Gauripur and Bilasipara were selected randomly for the study. In the next stage, five villages were selected from each of the block. Further twelve numbers of farmers were selected randomly from each of the selected villages. Thus a total of one hundred and twenty numbers of farmers were selected as respondents for the study. The farmers who had minimum 3 years of experience in rearing sheep were selected. The data were collected through personal interview method with the help of a well-structured, comprehensive and pre-tested interview schedule. The data on various parameters were collected, computed and analyzed as per standard statistical methods (Snedecor and Cochran,1994).

RESULTS AND DISCUSSIONS

Socio-Economic Status of Sheep Farmers

Education: Education plays a vital role in adopting improved management practices of sheep rearing. The study revealed that, majority (56.67%) of the sheep farmers were illiterate followed by 19.17, 13.33, 9.17 and 1.67 per cent of the respondents had primary, middle, high school and higher secondary level of education respectively (Table 1). The higher per cent of illiteracy might be due to lack of awareness and poverty among the farmers. The present findings were also similar Rajanna et al. (2012), who reported the higher per cent of illiterate (74.65%) sheep farmers in Telangana region of Andhra Pradesh.

Age: It was observed that almost three-fourth (74.17%) of the respondents belonged to middle age followed by young age (15.83%) and old age (10.00%) group (Table 1). Lower involvement of young people in traditional sheep farming might be due that most of young labourers in the study areas engaged in various construction works for their livelihood. The findings of present study also corroborated the findings of Rajanna et al. (2012).

Table 1: Socio-economic parameters of sheep farmers in Dhubri district

Variables	Gauripur (n=60)	Bilasipara (n=60)	Total (n=120)
Education			
a) Primary school	11 (18.33)	12 (20.00)	23 (19.17)
b) Middle school	9 (15.00)	7 (11.67)	16 (13.33)
c) High school	6 (10.00)	5 (8.33)	11 (9.17)
d) Higher secondary	2 (3.33)	0 (0.00)	2 (1.67)
e) Illiterate	32 (53.33)	36 (60.00)	68 (56.67)
Age (In years)			
a) Young (<30 years)	10 (16.67)	9 (15.00)	19 (15.83)
b) Middle (31-50 years)	44 (73.33)	45 (75.00)	89 (74.17)
c) Old (>50 years)	6 (10.00)	6 (10.00)	12 (10.00)
Occupation			
a) Agriculture	37 (61.67)	41 (68.33)	78 (65.00)
b) Business/trade	4 (6.67)	3 (5.00)	7 (5.83)
c) Labourer	11 (18.33)	9 (15.00)	20 (16.67)
d) Animal Husbandry	8 (13.33)	7 (11.67)	15 (12.50)
Land holding (In Bigha)			
a) Landless	13 (21.67)	19 (31.67)	32 (26.67)
b) Up to 5 Bigha	41 (68.33)	38 (63.33)	79 (65.83)
c) 6-10 Bigha	4 (6.67)	3 (5.00)	7 (5.83)
d) Above 10 Bigha	2 (3.33)	0 (0.00)	2 (3.33)
Family size			
a) Small (2-5 members)	11 (18.33)	13 (21.67)	24 (20.00)
b) Medium (6-10 members)	39 (65.00)	41 (68.33)	80 (66.67)
c) Large (above 10 members)	10 (16.67)	6 (10.00)	16 (13.33)
Annual family income			
a) Low (Rs. 20,000-50,000)	47 (78.33)	41 (68.33)	88 (73.33)
b) Medium (Rs. 50,000-1,00,000)	12 (20.00)	15 (25.00)	27 (22.50)
c) High (Above Rs. 1,00,000)	1 (1.67)	4 (6.67)	5 (4.16)
Sheep farming experience (In years)			
a) Up to 5 years	28 (46.67)	37 (61.67)	65 (54.17)
b) 6-10 years	27 (45.00)	16 (26.67)	43 (35.83)
c) Above 10 years	5 (8.33)	7 (11.67)	12 (10.00)
Religion			
a) Hindu	8 (13.33)	11 (18.33)	19 (15.83)
b) Muslim	52 (86.67)	49 (81.67)	101 (84.17)

**Figures in the parenthesis indicate per cent.*

Occupation: Agriculture alone was the main occupation (65.00%) of the respondents in the study area (Table 1). The laboureres for agriculture and construction works accounted for 16.67 percent followed by animal husbandry alone activities (12.50%) and only 5.83 percent had business as main occupation. Ramesh *et al*. (2012) also reported that all the small ruminant farmers had both animal husbandry and agriculture as main occupation in Karnataka.

Land holding: In the present study, it was evident that the landless farmers contributed a significant portion (26.67%) of the respondents, for which animal husbandry activities could be the better option for their livelihood. However, most of the landless farmers were engaged as labourers in various agricultural and construction works in the study areas. Most (65.83%) of the farmers had only up to 5 bighas of land followed by landless (26.67%), 6-10 bighas of land (5.83%) and only 3.33 per cent had above 10 bighas of land in the study areas. Rajanna et al. (2012) also reported the similar findings in Telangana region of Andhra Pradesh.

Family size: Table 1 revealed that two-third of the respondents had medium size family followed by small (20.00%) and large size family (13.33%). The family was found to be directly related with the size of the farm or flock. These results also corroborated the findings of Thilakar and Krishnaraj (2010) and Rajanna et al. (2012).

Annual family income: It was observed that majority (73.33%) of the respondents had low annual income followed by medium annual income (22.50%) and high annual income level (4.16%) (Table 1). These findings were in accordance with the findings of Ramesh et al. (2012) in Karnataka. Higher percent of lower family income among the respondents depicted poor economic condition of the farmers in these areas. Hence the farmers opted for sheep farming as an additional source of income to improve their livelihood security.

Experience in sheep farming: Gaining experience would result in success of any livestock farming. The study revealed that majority (54.17%) of the farmers had an experience of 5 years in sheep farming followed by 35.83 and 10.00 per cent with an experience of 6-10 years and above 10 years respectively in sheep rearing (Table 1). However, Ramesh et al. (2012) reported a mean experience in small ruminant farming was 9.1 years in Karnataka.

Religion: Table 1 revealed that majority (84.13%) of the farmers were Muslims followed by Hindus (15.83%) in the study areas. But Kuldeep et al. (2006) reported in their study that Muslims formed the second category after Hindus in Western Rajasthan. Higher proportion of Muslim farmers might be due to the demographic distribution of population in the study area. As there was no any social taboo in rearing of sheep, irrespective of religion they have adopted sheep farming as a mean to improve their livelihood security.

EXISTING HUSBANDRY PRACTICES

Housing: From the present study, it was revealed that all the farmers followed extensive system of sheep rearing. When

there was no crop in the field the sheep were let loose in the morning and were provided with night shelter only. There was no separate housing for the sheep alone. Most (95.33%) of the farmers kept their sheep either with goat or cattle during night. Only few (4.16%) farmers kept their sheep in one corner of the cattle shed surrounded by bamboo sticks to protect them from other livestock. Majority (98.33%) of the farmers housed sheep in mud floor without any bedding material during night. However, during winter season, they were provided with some bedding materials such as old gunny bags, paddy straw etc. to protect them from cold weather and special care was taken for new born lambs during winter. Sireesha et al (2014) reported that majority (60.70%) of the farmers housed their sheep nearer to their dwellings and some (39.30%) were away from their houses in Guntur district of Andhra Pradesh. Smaller flock size might be the reason for not providing separate house for sheep. None of the house had adequate ventilation system. Most of the houses were made with locally available materials like bamboo, wooden planks, thatch etc. without any specific dimensions. All the farmers cleaned houses daily. Majority of the farmers reported that they housed the sheep to protect them from theft and predators. During monsoon, the sheep were shifted to an elevated area, where temporary housing arrangements were made with plastic papers, bamboo etc. to protect them from flood. Sometime, the sheep were kept in boats as a man shift arrangement during sudden flood in the river islands of the district.

Feeding practices: Mostly the marginal and landless labourers were engaged in sheep farming and maintained a small flock of sheep of 5-7 and raised them on open grazing field, fallow land and on the sides of the road. They were let loose in the morning and returned back to the night shelter before evening when there was no crop in the field. During cropping season, the sheep were tied with 4-5 meters length rope in the community grazing field for feeding. During flood, they were shifted to an elevated area and were mostly fed with tree leaves such as jackfruit, mango, neem, guava, banana and babool. During rainy season, they even graze in knee deep condition in waterlogged marshy land. Concentrate mixtures were not provided by farmers to their sheep. Mostly, women and children were involved in feeding of sheep. It was evident that none of the farmers followed any special feeding care to their pregnant, lactating ewes and breeding rams in the study area. After lambing, the lambs were also allowed to go along with their mother immediately after 1 day of lambing. The findings of the present study were in accordance with the findings of Sireesha et al. (2014), who also reported no special feeding to pregnant and lactating ewes in Andhra Pradesh.

Breeding practices: All the respondents, kept both males and females together during grazing and during night sheltering. Hence, there was random unplanned and flock mating and there was no restriction and rotation of ram on mating. The farmers allowed all the animals to be naturally bred. None of the farmers aware of proper ram to ewe ratio for breeding. This was contrary to the present findings, Rajanna et al. (2014) reported the mean ram and ewe sex ratio was 1:20 and 1:24 respectively in

Nellore and migratory Coimbatore breeds of sheep. Majority of the farmers reported that two breeding seasons in sheep *viz.* June-August and January-March in the study area. However, Rajanna et al. (2014) reported three breeding seasons in sheep in Andhra Pradesh. The age at sexual maturity ranged between 7-9 months and age at first lambing ranged between 12-14 months. The average gestation period was 150 days. They lamb twice in 18 months and gave multiple births mostly twins and triplets, even quadruplets at times.

Health management practices: Most of the farmers reported that parasitic infection and diarrhoea in the rainy season were the main health problems of sheep in the study area. The results of the present study was in accordance with the findings of Mandal et al. (2006), who also reported that parasitic infection and diarrhea were the main health problems of sheep in West Bengal. Due to grazing in marshy land during rainy season, they were highly prone to parasitic infection particularly liver fluke infection. During flood, most of the sheep died due to severe starvation. During winter season, they infected with some external parasites also. None of the farmers practiced deworming to treat parasitic infection. In villages, tick and lice infestation were treated mostly by sprinkling ash powder over the whole body. None of the farmers vaccinated their sheep in the study area. Majority (91.67%) of the respondents did not consult with any veterinary officer to treat their ailing sheep. The incidence of mortality was always higher in lambs during rainy season followed by winter and summer.

CONCLUSION

From the above study, it may be concluded that mostly illiterate, economically poor, under privileged rural people were involved in sheep farming in Dhubri district. The farmers were still practicing traditional system of rearing. Hence, there is an urgent need to adopt improved management practices to exploit the maximum production potential of this local sheep. During flood, special care has to be taken to prevent mortality in lambs, by adopting improved management practices, better growth could be achieved, which will ultimately increase the income of the rural poor sheep farmers.

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