

STUDY ON HEALTH AND HUSBANDRY PRACTICES OF ACHHAMI CATTLE IN FARWESTERN REGION OF NEPAL

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ABSTRACT

Achhami cattle are a typical dwarf breed specially found in Achham district. A study was conducted from July 2016 to June 2017 with an objective to know the common health and husbandry practices adopted by Achhami cattle rearing farmers in Achham district. Household (HH) survey was conducted purposively in 100 households of Achhami cattle rearing area. Along with survey, collection and examination of fecal and milk sample from Achhami cattle was made once. The baseline survey of this study revealed that these cattle are now in endangered stage. Only 351 cattle were found in 100 major rearing households. Majority of farmers graze cattle for 6 hours per day in their nearby grazing land. In addition of grazing they also provide approximately 4-6 kg of paddy straw daily and 1 pot of Kudo (10 kg mixture of feed and water) to milking cattle. Twenty four percent (24%) respondent have separate cattle shed and 76% have common shed with human living. Floor of shed is made from mud and stone and with poor ventilation. They clean shed once a week in summer and once per month in winter. Thirty three percent (33%) of farmers are aware about effect of ectoparasite in cattle. Among total surveyed farmers, 23% of them use anthelmintic drug for their cattle. Fecal examination for cattle is not practiced by farmer. Total 78 fecal samples of Achhami cattle were examined and prevalence was found to be 41%. Major parasites found were Fasciolasps and Paramphisotumsp. One hundred and sixty (160) milk samples of cattle were examined by California Mastitis Test (CMT) in the field condition and prevalence of subclinical mastitis was found to be 2.5%. Artificial insemination program is not implemented in the area but due to cross breeding with other larger breeds of bull there is higher occurrence of dystocia as mentioned by farmer during survey period. Occasional outbreak of foot and mouth disease was also observed. The average daily milk yield is 2.84 liter with lactation length ranging from 6 to 12 months. Age of first service is 34 months and age at 1st calving is 44 months. Achhami cattle can be reared with low input supply and use of vaccination and deworming will be helpful to improve the production of Achhami cattle.

Key words: Achhami cattle, health, husbandry practice, Nepal

INTRODUCTION

Livestock farming is an integral part of livelihood in rural farming communities of Nepal. Total cattle population in the country is estimated to be 7347487 (Krishi Dairy, 2075). Nepal has 7 different indigenous cattle breeds namely Siri, Terai, Pahadi, Yak/Chauri, Lulu, Khaila and Achhami. Achhami cattle is a typical dwarf breed specially found in the hills of Achham, Bajura, Bajhang and Doti districts of Far western province of Nepal. It has black dominating color. It is also considered as smallest cattle breed of the world (Epstein, 1977) with measurements of mean heart girth, body length and height at wither as 120.52 ± 1.8 cm, 86.6 ± 1.5 cm and 86.2 ± 1.4 cm, respectively (Dhakal, 2017). Average body weight of cattle is 150 ± 0.47 kg (Mahato and Gorkhali, 2010). Locally these cattle are named as **Naumuthe Gai** or **Sano Gai** or **Muse Gai** (Neupane and Pokarel, 2005; Anon 2017). This breed of cattle is with some of positive attributes like resistant to economically important diseases, can produce in very low input, adaptable to local environment. The population of Achhami cattle with their hill crossbred has been estimated to be 3.2% (202181) of the total population of cattle (Shrestha et al.,

1996). Its population has been decreased to number of 1029 in Achham (Anon, 2015). It shows drastic decline of Achhami cattle population with time.

Little research on productive and reproductive performance, husbandry practice and health condition has been done. Therefore, this study was carried out to gather more information on current status of Achhami cattle regarding health and husbandry practices in Achham district.

MATERIALS AND METHODS

A study was conducted from July 2016 to June 2017 with an objective to know common health and husbandry practices adopted by Achhami cattle rearing farmers in Achham district. Jalpadevi, Babla, Mastamandu, Bajinath and Khaptad of Saphebagar municipality were selected for household survey and sample collection. Household (HH) survey was conducted in 100 households purposively. Along with survey, collection and examination of fecal and milk sample from Achhami cattle was made once. Data entry and analysis was done by using MS Excel 2007.



Figure 1: Interview with farmer in Babla, Achham **Figure 2:** CMT in field condition of Achham

RESULTS AND DISCUSSIONS

The baseline survey of this study revealed that these cattle are now in endangered stage with population of only 351 in 100 major Achhami cattle rearing households of Achham district. Average herd size of Achhami cattle is 3.51 in each HH.

Milk Production

The average daily milk yield is 2.84 lit (1 to 4 lit) with lactation length ranging from 6 to 12 months (Average 11.24 month). Age of first service is 34 months and age at 1st calving is 44 months. Average time to return to estrus after parturition is 7 months.

Feeding Management

Majority of farmers graze cattle for 6 hours/day in their near grazing land. In addition of grazing, they provide 4-6 mutha(4-6 kg) of paddy straw and occasionally they fed kudo (one pot of homemade concentrate mixture and around 10 lit of water mixed liquid) to milking cattle.

Shed Management

Twenty-four percentage (24%) respondents have separate cattle shed and 76% have shed attached with human living (ground floor for cattle shed and remaining for human). Floor of shed is made from mud and stone and with poor ventilation. Regarding cleanliness of shed they clean shed once per week in summer and once per month in winter.

Health Management

Thirty three percent (33%) of farmers are aware about ectoparasite effect in cattle. Twenty three percent

(23%) of farmers only use anthelmintic drug for their cattle that is also without fecal examination. Foot and mouth disease vaccine coverage is very poor and incidence of disease is increasing year by year.



Figure 3: Herd of Achhami Cattle in Khaptad **Figure 4:** Achhami Cow in Jalpadevi, Achham

Examination of Fecal for Endoparasite Prevalence in AchhamiCattle

- 78 fecal samples of Achhami cattle were examined and prevalence of endoparasite was found to be 41%. Major parasites found were *Fasciolaspsand Paramphisotumsp*

Examination of Milk for Sub Clinical Mastitis Test in AchhamiCattle

- 160 milk samples of 40 different cattle were examined by CMT test in the field condition for subclinical mastitis test. Prevalence was found to be 2.5%.

Table 1: Comparison of some productive and reproductive parameters of Achhami cattle with other studies

Parameters	Present study	Shrestha <i>et. al</i> , 1996	Mahato <i>et. al</i> , 2009
Average daily milk yield (liter)	2.84	0.79±0.21	1.50±0.47
Lactation length (month)	11.24 (6 to 12)	6 to 9	6 to 9
Age at first service (month)	34	36 to 60	36±0.78
Age of first calving (month)	44	48 to72	46±0.28

Average milk yield per day and lactation length in our study shows higher value than other previous studies. But age at first service and first calving is lower in our study than previous studies.

Survey shows that population of Achhami cattle has significantly reduced and crossbreeding with other breeds of cattle has made it difficult to maintain its pure breed. Farmers rearing Achhami cattle have migrated to terai region and its farming is limited to few HHs of upper hills only. Due to cross breeding with other larger breeds of cattle they are facing mortality due to dystocia. Artificial insemination program has not been implemented to date in this area due to poor access of road. Although milking cattle are kept in shed without cleaning shed for one month, prevalence of subclinical mastitis is very low. So, it is hardy towards disease like mastitis too.

CONCLUSION

Population of Achhami cattle has been decreased drastically and is in endangered stage. Husbandry practice for these cattle is still traditional type. To maintain its population and conserve this breed, implementation of special program by government sector and local community has become very much

crucial. Artificial insemination program with Achhami bull semen and promotion of agro-tourism focusing on Achhami cattle may be possible option for sustainable conservation of cattle in in-situ condition.

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