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Herd structure and herd dynamics of animals in Cow-shelters (Gaushalas) of Haryana state

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Abstract

Gaushalas are the protective shelters for cows and also rescue the cattle destined for illegal slaughter. Gaushalas are secure shelter for ownerless and stray cattle. As per the 19th livestock census, there are 8.12 lakhs indigenous cattle in Haryana, of which 3.06 lakhs (37.7%) are kept in 408 Gaushalas and most of these are low-producing, injured, old, sick cows or surplus males. Keeping this consideration in view to plan to observe was carried out to study the herd structure and herd dynamics of cattle in Gaushala. The data was collected from 34,279 animals which were reared by 30 Gaushalas from 10 districts, from April 2017 to February 2018 through interviews using a structured questionnaire and by onsite observation. These 30 Gaushalas were divided into three categories based on the total number of animals present in Gaushalas small (100-500 animals), medium (501-1000 animals) and large size Gaushalas (> 1000 animals). The data was collected on various categories of cattle maintained in different sizes of Gaushalas. The obtained finding showed that the population of cattle including milch cows, calves and heifers were 39.1% and the remaining 58.72% were unproductive cows, bulls and bullocks. Finding of this study are play an important role in the improvement and conservation of Indigenous cattle through government policies.

Keywords: Gaushalas, herd structure, herd dynamics, cow shelters and unproductive cows

Introduction

Gaushalas are the protective shelters for cows and they also provide rescue to the cattle destined for illegal slaughter. The main functions of the Gaushalas are a secure shelter for ownerless and stray cattle, to prevent road accidents and crop damage. As per the 19th livestock census (2012), there are 8.12 lakhs indigenous cattle in Haryana, of which 3.06 lakhs (37.7%) are kept in 408 Gaushalas and most of these are low-producing, injured, old, sick cows or surplus males. India is having an enormous reservoir of cattle genetic resources not only in terms of population but also in genetic diversity represented by 50 recognized cattle breeds. Recognized breeds represent less than 20% of the total cattle population. These breeds of cattle are a result of thousands of years of selection, evolution and development in the process of domestication suited to the local agro-climatic conditions. The native livestock breeds exhibit a distinct superiority in utilizing poor-quality feeds and fodders and are adapted to withstand heat and show better resistance to tropical diseases. In a recent study at the National Bureau of Animal Genetic Resources (2005) several Gaushalas have been noted as potential centers for breed conservation and improvement. It was noted in the study that each Gaushala has around 10 to 15% of cattle of local pure breed (Sadana, 2006) [6]. A few fore-front Gaushalas, however, are striving to maintain indigenous purebred cows like Sahiwal, Gir, Haryana, and Kankrej, and produce quality males, thereby contributing to the improvement and conservation. The exchange of breeding bulls among cow shelters and young breeding male and female animals are essential for planning and executing a breed improvement programme. The present study was undertaken to report on herd structure and herd dynamics of animals in Cow-shelters

Materials and Methods

The present study was conducted in Haryana state with aim to study the herd structure and herd dynamics of animals in different categories of Cow-shelters (Gaushalas).

Out of these 420 Gaushalas, only 30 Gaushalas were selected by stratified random sampling from 10 districts of Haryana (these were Sirsa, Hisar, Fatehabad, Bhiwani, Jind, Sonipat, Kurukshetra, Karnal, Kaithal and Panipat) which represents 83 percent of the total Gaushalas present in Haryana (Table 1). These different categories of 30 Gaushalas were divided into three groups on the basis of their number of animals present in Gaushala (Table 1), the animal numbers ranging from 100-500 were categorise as small size Gaushala (N=10), while 501-1000 animals and > 1000 animals are categorised as medium size Gaushala (N=10) and large size Gaushala (N=10), respectively. The primary data on category-wise cattle population were collected from concerned individuals/stakeholders, who were involved in maintaining the cow-shelf from muring April, 017 to February 2018, through interviews using a structural questionnaire and onsite observation, Herd size was studied as the total number of cattle heads owned by the gaushalas at the time of investigation.

Result and Discussion

The number of different categories of animals in different-sized Gaushalas is presented in the table 3. Various categories of cattle maintained in Gaushalas were milch cows, calves, heifers, bulls and bullocks, unproductive cows and sick/injured cattle. The average total number of animals in small, medium and large Gaushalas was 348.30, 783.10 and 2296.50, respectively (table 3). The overall proportion of milch cows, calves, heifers, bulls and bullocks, and unproductive cows in Gaushala were 12.43%, 7.33%, 19.36%, 24.62% and 34.10%, respectively. Three main categories of animals including milch cows, calves and heifers were 39.1% and the remaining 58.72% were the unproductive animals including unproductive cows, bulls and bullocks.

Milch cows, Calves and Heifers

The number of milch cows, calves and heifers in different-sized Gaushalas are given in Table 4. Milch cows are defined as cows (lactating and pregnant cows) where the purpose of the operation includes some or all of the breeding,

rearing and management of cattle intended for the production of milk. In the present study, it was observed that the average number of milch cows in small, medium and large Gaushalas was 36.50 (11.92%), 98.30 (12.83%) and 300.80 (12.53%), respectively, whereas the overall average number was 145.20 (12.43%) (Table 4). Calf may be defined as, a young bovine animal, male or female, less than one year of age. The average number of calves in small, medium and large Gaushalas were 23.00 (6.93%), 49.00 (6.31%) and 199.80 (8.73%), respectively, whereas the overall average number was 90.60 (7.33%) (Table 4). Heifers of the female cows, from one year age up to the first calving. The average number of heifers in small, medium and large Gaushalas was 73.40 (21.60%), 151.20 (19.71%) and 378.90 (16.75%), respectively, whereas the overall average number was 201.17 i.e. 19.36 percent (Table 4).

Bulls and Bullocks

The number of bulls and bullocks in different-sized Gaushalas is given in Table 4. Bull is a male member of the bovine species and the bullock is a castrated bull, used for draft purposes. The average number of bulls and bullocks in small, medium and large Gaushalas was 105.90 (28.52%), 196.50 (25.03%) and 471.20 (20.32%), respectively, whereas the overall average was 257.87 i.e. 24.62 percent (Table 4).

Unproductive cows

The number of unproductive cows in different-sized Gaushalas is given in Table 4. Unproductive cows may be defined as stray, abandoned, handicapped, infirm, poor milker and overfat cattle. The average number of unproductive cows in small, medium and large Gaushalas was 102.20 (28.76%), 267.80 (33.97%) and 899.90 (39.56%), respectively, whereas the overall average number was 423.30 (34.10%) (Table 4).

Sick / Injured cattle

The number of sick/injured cattle in different-sized Gaushalas is given in Table 4. The average number of sick/injured cattle in small, medium and large Gaushalas was 7.30 (2.26%), 20.30 (2.55%) and 45.90 32 (2.15%), respectively, whereas the overall average was 24.50 i.e. 2.31 percent (Table 4).

Table 1: Number of selected Gaushalas from the different district of Haryana

Name of District	Total Gaushalas	Size of Gaushalas			
		Small	Medium	Large	Total
Bhiwani	30	1	1	1	3
Fatehabad	35	1	1	1	3
Hisar	41	1	1	2	4
Jind	30	1	1	1	3
Kaithal	16	1	1	-	2
Karnal	17	-	1	1	2
Kurukshetra	19	1	1	-	2
Panipat	16	-	1	1	2
Sirsa	73	3	2	2	7
Sonipat	23	1	-	1	2
Total	300	10	10	10	30

Table 2: Classification of Gaushalas on the basis of herd size

Category of Gaushalas	Adult herd size	No. of Gaushalas selected
Small	100-500	10
Medium	501-1000	10
Large	> 1000	10
Total	--	30

Table 3: Number of animals in small-size, medium size and large-size Gaushalas

Sr. No.	Size of Gaushalas		
	Small	Medium	Large
1	330	525	1325
2	396	959	1400
3	180	621	3187
4	400	725	2250
5	285	856	1400
6	480	949	2785
7	182	996	4646
8	320	650	2450
9	450	580	1300
10	460	970	2222
Average	348.3	783.1	2296.5

Table 4: Average herd size and percentage of animals in different categories of Gaushalas

SL. No.	Category of animals	Size of Gaushalas			Overall Av. herd size (%) of animals in Gaushalas
		Small {Av. herd size (%)}	Medium {Av. herd size (%)}	Large {Av. herd size (%)}	
1	Milch cows	36.50(11.92)	98.30(12.83)	300.80(12.53)	145.20(12.43)
2	Calves	23.00(6.93)	49.00(6.31)	199.80(8.73)	90.60(7.33)
3	Heifers	73.40(21.60)	151.20(19.71)	378.90(16.75)	201.17(19.36)
4	Bulls and bullocks	105.90(28.52)	196.50(25.03)	471.20(20.32)	257.87(24.62)
5	Unproductive cows	102.20(28.76)	267.80(33.97)	899.90(39.56)	423.30(34.10)
6	Sick/injured cattle	7.30(2.26)	20.30(2.55)	45.90(2.150)	24.50(2.31)
	Total	348.30	783.10	2296.50	1142.63

* Figures in parenthesis indicate the percentage of column's total animals

Conclusion

Cattle herd dynamics in Gaushalas play an important role in implementing Govt. policies in Gaushalas. It helps to understand the herd structure in the Gaushalas for proper management and feeding practices of different categories of animals. It will also be helpful in formulating improvement and conservation policies on Indigenous cattle in Gaushalas.

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References

- 19th Livestock Census. Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture; c2012.
- Sissokho MM. Cattle herd dynamics and performance under village husbandry in the Kolda region (Southern Senegal), (Doctoral dissertation); c1998.
- Yadav DK, Vij PK. Cattle Herd Structure and Herd Dynamics in Gaushalas of Haryana. Journal of Livestock Biodiversity. 2011;1:2.
- Yadav DK. Gaushala System in India: Redefining its Utility? Livestock International. 2009;13:14-16.
- Yadav DK, Vij PK. Inventorization of Gaushalas resources and their use in breed improvement and conservation programmes. Indian Journal of Animal Sciences. 2010;80(4):343-345.
- Sadana DK. The economy of Indigenous livestock production system: Issues in concern conservation. National conference on the utility of Gaushalas for improvement and conservation of indigenous cattle, Karnal; c2006, p. 58-60.