Journal of Entomology and Zoology Studies

Available online at www.entomoljournal.com

E-ISSN: 2320-7078
P-ISSN: 2349-6800
JEZS 2018; 6(5): 787-791

Received: 03-07-2018
Accepted: 04-08-2018

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An analysis of constraints faced by the Gaushalas in Karnataka state

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Abstract
Gaushalas play a vital role in safeguarding the cattle wealth of our country. Gaushalas provide shelter and selfless service to many injured, stray, old and abandoned cattle. The effective management of Gaushalas in the present context is a serious challenge. Paucity of funds, inadequate financial aid from governments, inadequate fodder availability, inadequate access to technical services, poor infrastructure facilities and poor management are some of the chronic problems faced by Gaushalas. In Karnataka State a total 80 Gaushalas were registered among which 22 Gaushalas are recognized by the Animal Welfare Board of India (AWBI). The present study was carried out by surveying 40 Gaushalas spread across the State with an objective of identifying and prioritizing the constraints faced by Gaushalas in Karnataka State. The results of the present study clearly indicated that inferior quality of breeding bulls maintained at Gaushalas, limited access to veterinary/technical services, inadequate land for grazing & fodder cultivation, inadequate funds/capital and lack of training facilities were the major constraints faced by the Gaushala management in the State.

Keywords: Constraints, Gaushala, management

1. Introduction
Gaushala means an institution established for the purpose of keeping, breeding, rearing and maintaining cattle for the purpose of reception, protection and treatment of infirm, aged or diseased cattle. It is primarily focused on providing shelter to cows and caters mostly to the needs of non-lactating, weak, unproductive, and stray cattle [1]. India is having about 190 million cattle population, 79 percent of which are indigenous and the rest 21 percent constituted as crossbred [2]. A last half decade (2007-12) has seen decline in the total cattle population to a tune of 4.1 percent [2]. Also during this period, the indigenous cattle population decreased by about 8.94 percent. The major factors for decrease in cattle population are attributed to uneconomical returns due to low productivity and replacement of draft power in agriculture by mechanization. As a result, particularly unproductive, old and stray cattle find shelter in the Gaushalas instead of individual households. At present India possess around 4500 Gaushalas among which approximately 1850 Gaushalas are registered under Animal Welfare Board of India (AWBI), 2014 which serves largely the indigenous cattle population. In Karnataka State there are total 80 registered Gaushalas and 22 Gaushalas recognized by the Animal Welfare Board of India (AWBI) which is second highest among South Indian States. The Gaushalas in the State are maintained largely by different stakeholders' viz. charitable institutions, private individuals/associations, NGOs. [3]As per NBAGR, 2017, the Karnataka State possess six recognized indigenous cattle breeds viz. Deoni, Amritmahal, Hallikar, Khilari, Krishna valley and Malnad Gidda which is highest among the States of southern India [3]. But indigenous cattle population has registered an annual decline of 4.50 percent between 2007 and 2012 census periods [4]. Therefore, Gaushalas in the State play significant role in conservation of indigenous cattle and provides shelter to many injured, stray, old and abandoned cattle in the State. Several empirical studies on Gaushalas revealed that lack of adequate balanced nutrition, non-availability of timely expert veterinary help, irreversible/untreatable conditions of the animals and indiscriminate treatment given by the lay help hired by the Gaushalas were the major constraints [5]. Animal healthcare was a major challenge before the Gaushala management constrained by meager resources, lack of trained manpower and field veterinarians [1]. Further he revealed that, besides common prevalent diseases, major reproductive problem in the cattle posed a major threat to Gaushalas in Haryana State. Previous researches have examined that due to lack of scientific record keeping

and linkage with the research institutions have limited the breed improvement programme in Gaushalas [6]. Even well-established Gaushalas are striving to maintain nucleus herd for *in-situ* conservation of indigenous purebred cows which have an innate capacity to survive under harsh conditions and produce in spite of limited inputs that can be provided [7]. However, numerous studies have also found that poor nutrition status of the animals followed by low quality fodder based ration [8] and reproductive diseases [9] were the major key constraints faced by the Gaushala management. But surprisingly very little work has been done to examine the current status and constraints of faced by the Gaushala management, policy makers, development agencies, animal welfare organizations etc. With this point in view, an attempt was made to elicit various constraints faced by Gaushalas managements in effective maintenance of Gaushalas in a Sustainable manner.

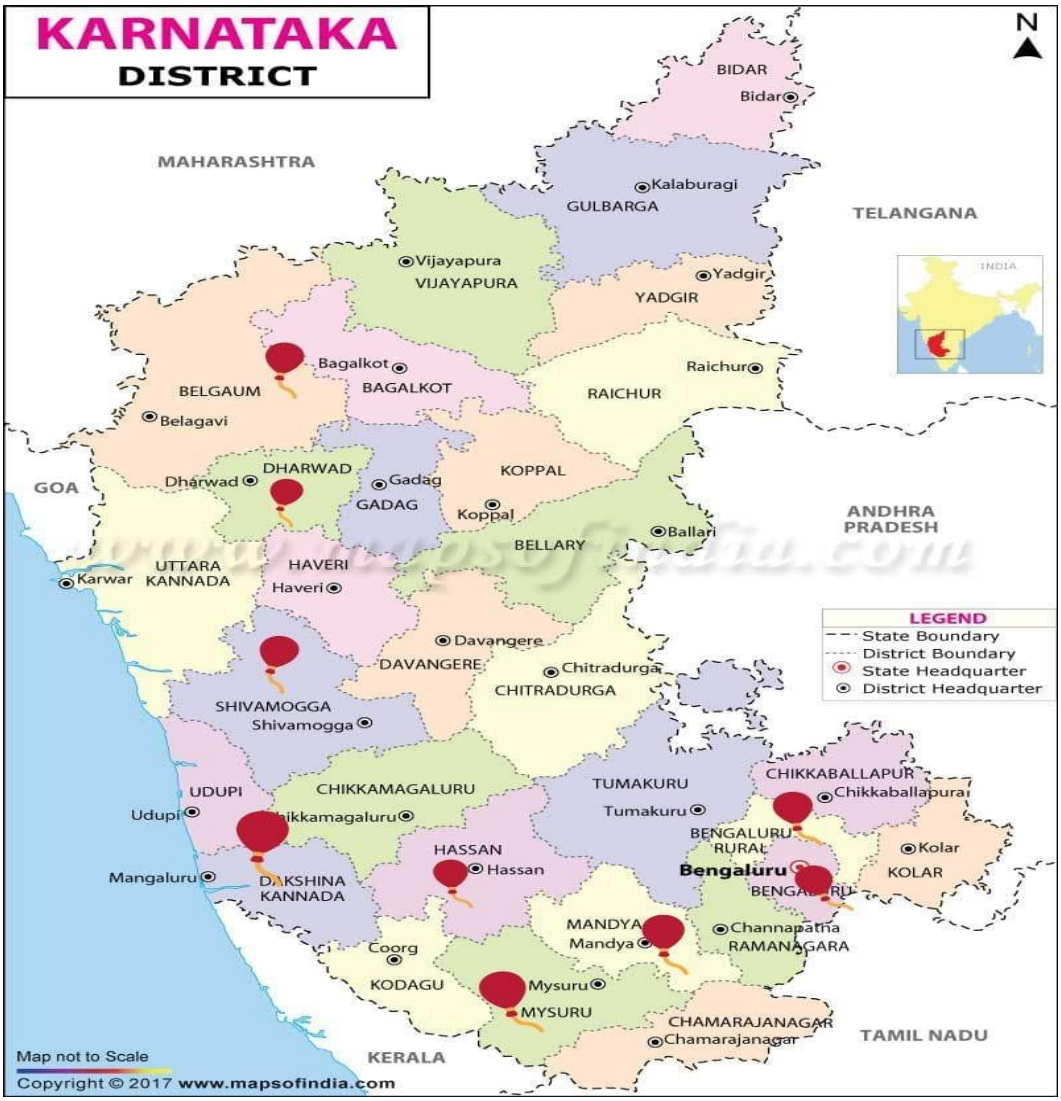

Fig 1: Map of Karnataka State showing the exact location of Gaushlas from different districts

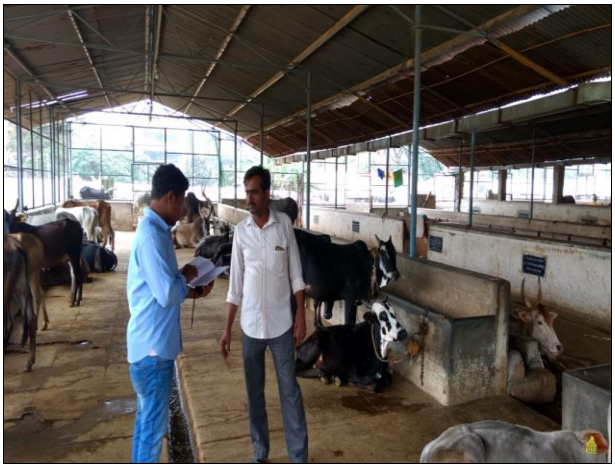

Fig 2: Visit to a Gaushala

2. Materials and Method

2.1 Data Collection

For this study 40 registered Gaushalas out of the total 80 registered Gaushalas present throughout the Karnataka State were randomly selected. The selected Gaushalas for the study were classified into small (less than 50 cattle), medium (between 51-150 cattle) and large Gaushalas (more than 150 cattle) based on the mean and standard deviation of sample herd size. Thus the selected 40 Gaushalas were comprised of 12 small sized, 18 medium sized and 10 large sized Gaushalas. The selected Gaushala-respondents were interviewed personally with the help of a well-structured and pre-tested interview schedule in order to get relevant information. The detailed information required for the study was collected from each of the selected Gaushalas during the year 2017-18.

2.2 Data Analysis

Then, the data collected were tabulated and analyzed using Garret ranking technique to interpret the results. By using this technique, the order of the merit given by the respondents was transformed into ranks by using the following formula.

$$\text{Percent position} = \frac{100\ (Rij - 0.5)}{Nj}$$

Where;
Rij = Rank given for the ith variable by jth respondents
Nj = Number of variable ranked by jth respondents

The percent position was converted into scores as referring table given by Garett and Woodworth (1969) [10]. For each factor or problem, the average score was worked out to arrive at mean scores and thus based on the mean scores, the ranks were given and the most important factor was ranked first and the least important problem was ranked as the last.

3. Results and Discussion

Constraints imply the problems or difficulties faced by Gaushala management while adopting day-to-day good animal husbandry and management practices in their Gaushalas. For the study, the constraints were studied under five categories Viz., breeding, feeding, healthcare, institutional and general management constraints. The data on commonly occurring feeding, breeding, healthcare, institutional and general management constraints in Gaushalas ranked by stakeholders in the study area were collected and analyzed by using Garret ranking technique and results are presented in Table 1 to Table 5.

Table 1: Constraints faced by the Gaushalas in breeding practices

Sl. No.	*Constraints*	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inferior breeding bulls used for Natural Service (N.S)	63.1	I	58.6	III	72.05	I
2	Inadequate supply of quality breed specific semen	49.05	IV	55.8	IV	62.8	II
3	Timely heat detection	52.8	III	68.4	I	45.45	IV
4	Incidence of reproductive disorders in cattle	58.9	II	64.85	II	56.3	III

Among the breeding constraints in Gaushalas, the analysis (Table 1) revealed that, in small sized Gaushalas inferior bulls used for Natural Service was the first constraint since most of the breeding bulls maintained in Gaushala herd were old and inferior with less genetic and reproductive potential, followed by incidence of reproductive disorders in cattle which was the second major constraint as very less attention was given towards reproductive health management of the cattle by the Gaushalas management. Timely heat detection was the third major constraint since most of them had low level of awareness and experience to detect the symptoms during peak heat period. In the case of medium sized Gaushalas, problem of heat detection was the first major constraint, incidence of reproductive disorders in cattle was the second and poor quality of bull was the third major constraint. In the case of large sized Gaushalas, inferior bulls used for Natural Services was the first major constraints followed by inadequate supply of quality breed specific semen as the second major constraint. This might be attributed to the incidence of poor conception rate in Gaushalas due to poor reproductive health, limited access to quality semen and distant location of A.I centres from Gaushalas. Similar studies in Haryana State, reported that poor quality of bulls, AI facilities and prevalence of reproductive diseases as major breeding constraints [1].

Table 2: Constraints faced by the Gaushalas in feeding practices

Sl. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inadequate supply of green fodder round the year	58.85	II	62.8	II	53.2	III
2	Non-availability of good quality feeds	46	IV	45.45	IV	60.15	II
3	Low availability of dry fodder	47.9	V	44.4	V	47.5	IV
4	Non-availability of land for fodder production/grazing	71.8	I	72.05	I	42.75	V
5	Inadequate knowledge on balanced feeding	52.45	III	56.3	III	73.6	I

Among the feeding constraints faced by the Gaushalas, the overall analysis (Table 2) revealed that, in small sized Gaushalas, non-availability of land for fodder production/grazing was the first major constraint, as the majority of the small and medium sized Gaushalas had inadequate land holding leading to an acute shortage for fodder/grazing land. Inadequate supply of green fodder round the year was the second major constraint; which might be due to acute shortage of green fodder during the off season leading to exorbitant increase in the price of the fodder, thus indirectly affecting the majority of the small and medium Gaushalas which directly depended on local farmers and input dealers for green fodder supply. Inadequate knowledge on balanced feeding was the third major constraint; which might be due to low level of awareness about balanced feeding practices and knowledge about the quality feed stuffs. In the case of medium size Gaushalas, non-availability of land for fodder production/grazing was the first major constraints, inadequate supply of green fodder round the year was the second and inadequate knowledge on balanced feeding was the third major constraint. This is attributed to inadequate availability of grazing/fodder land, seasonal availability of green fodder and inadequate knowledge about balanced feeding pattern among cattle. In the case of large Gaushalas inadequate knowledge on balanced feeding was the first major constraint, non-availability of good quality concentrates feed was the second major constraint as they lacked knowledge about sources of good quality concentrates available in the market and the majority of them depended on cheap and sub-standard concentrate feeds. Inadequate supply of green fodder round the year was the third major constraint as there was acute shortage of green fodder during off season. Similar

findings were reported that inadequate knowledge on balanced feeding as major constraints [5]. Inadequate supply of green fodder round the year was the major feeding constraints [8].

Table 3: Constraints faced by the Gaushalas in healthcare practices

Sl. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Poor knowledge about cattle health management	57.7	II	60.15	II	56.3	III
2	Lack of timely access to veterinary services	53.65	III	73.6	I	72.05	I
3	Prevalence of poor environmental hygiene	68.3	I	53.2	III	62.8	II

The analysis of healthcare constraints (Table 3) indicated that in small sized Gaushalas, the prevalence of poor environmental hygiene was the first major constraint, followed by poor knowledge about cattle health management as the second and lack of timely access to veterinary services as the third major constraint. This might be due to the ignorance and lack of technical manpower and experience among the small sized Gaushalas towards animal healthcare practices and also due to lack of timely access to veterinary services were the major cause of the constraints. In case of medium sized Gaushalas, lack of timely access to veterinary services followed by poor knowledge about cattle health management and the prevalence of poor environmental hygiene was the major constraints based on the order of priority. This might be due to lack of access to veterinary services in the local Gaushalas and inadequate knowledge and awareness about good animal healthcare practices. In the case of large sized Gaushalas lack of timely access to veterinary services followed by prevalence of poor environmental hygiene and poor knowledge about cattle health management were the important major constraints. This could be attributed to the distant location of veterinary clinics, ignorance and insufficient knowledge of good animal healthcare practices. The results are found in line with the earlier study in Haryana State which reported lack of timely access to veterinary service as major healthcare constraint [6].

Table 4: Constraints faced by the Gaushalas due to institutional constraints

Sl. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Difficulty in registration procedures	55.25	II	51.25	III	55.8	IV
2	Inadequate infrastructure	43	IV	72.5	I	58.6	III
3	Insufficient trained technical manpower	52.75	III	57.75	II	68.85	I
4	Inadequate credit facilities/funds/donations	65.75	I	41	IV	64.85	II

Among institutional constraints (Table 4), the results indicated that in small sized Gaushalas, inadequate credit facilities/funds/donations was the first major constraint as they relied basically upon individual donations which was not sufficient enough to meet the daily maintenance expenses of Gaushalas. Difficulty in registration procedures was the second major constraint as it was time consuming and cumbersome, insufficient trained technical manpower was the third major constraint as the majority of the manpower engaged in Gaushalas maintenance were daily labourers with less technical expertise and efficiency in Gaushala management. In the case of medium sized Gaushalas, inadequate infrastructure was the first major constraint as there was inadequate capital or fund for investment in Gaushala infrastructure development. Insufficient trained technical manpower was the second major constraint. Difficulty in registration procedures was the third major constraint. Whereas, in case of large sized Gaushalas insufficient trained technical manpower followed by inadequate credit facilities/funds/donations and inadequate infrastructure were the most important perceived constraints. This could be attributed to the reason that, though majority of large sized Gaushalas had adequate manpower they lacked in technical skills, also funds and infrastructure facilities were found to be inadequate to meet the increasing population of cattle in large size Gaushalas, over time. Similar findings were also reported earlier in Haryana State that lack of inadequate infrastructure, insufficient trained technical manpower in Gaushalas and irregular financial assistance were the major institutional constraints [8, 9].

Table 5: Constraints faced by the Gaushalas due to general constraints

Sl. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inadequate capital for infrastructure development	73.75	I	75.7	I	61.05	IV
2	Inadequate knowledge about cattle waste management	57.35	IV	46.8	VI	68.1	II
3	High rate of calf mortality	53.95	V	48.6	V	34.8	VI
4	Inadequate Government support for training & development	60.05	III	65.1	II	62.95	III
5	High cost of inputs	61.95	II	59.4	III	57.35	V
6	Inadequate knowledge of scientific management	50.8	VI	58.35	IV	74.8	I

The analysis on general management (Table 5) constraints revealed that, in small sized Gaushalas, inadequate capital for infrastructure development was the first major constraint, high cost of inputs was the second major constraint and an inadequate Government incentive to support Gaushalas was the third major constraint. In the case of medium size

Gaushalas, inadequate capital for infrastructure development, inadequate Government incentives to support Gaushalas and high price of inputs were the major constraints. This might be due to the reason that most of the small and medium sized Gaushalas had inadequate financial support due to which they were constrained in developing infrastructure facilities. Whereas, in the case of large sized Gaushalas inadequate knowledge on scientific management was the first major constraint, followed by inadequate knowledge of cattle waste management and inadequate Government support for training and development of Gaushalas were the major constraints. This might be due the reason that majority of the large sized Gaushalas followed conventional method of management and were not much aware about the implementation of practice to reduce, reuse or recycle cattle farm waste i.e. preparation of Panchagavya, Vermicomposting etc. and also majority of them lacked training facilities from the developmental agencies for efficient and sustainable management of Gaushalas. Similar findings were also reported earlier by other workers [1, 5, 8].

4. Conclusion

It can be concluded from the study that, inferior quality of bulls used for Natural Service (N.S), incidence of reproductive disorder in cattle and untimely heat detection were the major constraints in breeding category. This might be due to more number of old, unproductive indigenous or non-descript cattle in Gaushalas and also due to a limited number of technical staffs present in the Gaushalas. Regarding feeding constraints, non-availability of land for grazing & fodder cultivation, inadequate supply of green fodder round the year and inadequate knowledge on balanced feeding were the major constraints. In healthcare constraints, lack of timely access to veterinary services, poor knowledge about cattle health management and prevalence of poor environmental hygiene were important constraints. The reason might be due to inadequate knowledge regarding good healthcare practices, distant location and limited access to veterinary services. Inadequate credit facilities/funds/donations, inadequate infrastructure and difficulty in registration were some of the important institutional constraints. This was attributed due to inadequate supply and shortage of funds and cumbersome procedure involved in registration of new Gaushalas. Regarding general constraints, inadequate capital for infrastructure development, high cost of inputs and inadequate support for training and development were important constraints. The study suggests that, there is a scope to improve the management practices in Gaushalas through sensitization and providing adequate training, dissemination of appropriate technologies through extension activities, strong policies and financial support by the different stakeholders involved in promotion and development of Gaushalas. Thus it will help to improve and enhance the performance of Gaushalas in the State.

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