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SS Mane
Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, Maharashtra, India

DS Chauhan
Professor, Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, Maharashtra, India

KS Pawar
Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, Maharashtra, India

VD Kumre
Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, Maharashtra, India

Corresponding Author:
SS Mane
Department of Animal Husbandry and Dairy Science, College of Agriculture, Latur, Maharashtra, India

Studies on constraints faced by the gaushalas in Hingoli and Nanded districts

SS Mane, DS Chauhan, KS Pawar and VD Kumre

Abstract
Gaushalas provide shelter and selfless service to many injured, stray, old and abandoned cattle. This study was carried out in Hingoli and Nanded district to identify various constraints faced by the Gaushalas in adoption of good management practices. The data were collected through interview schedule from 40 Gaushalas of study area. The major constraints faced by the Gaushalas were; 'incidence of reproductive disorders in cattle', 'poor knowledge about cattle health management', 'inadequate funds/capital and training' for effective management'. The results of the present study clearly indicated that limited access to veterinary/technical services, inadequate land for grazing and fodder cultivation were the major constraints faced by the Gaushala management in the Hingoli and Nanded district.

Keywords: Constraints, gaushalas, management

Introduction
Gaushalas in India play a vital role in protection of cows and cattle wealth of the country. Most of these Gaushalas are being run as chairity institution. Management personnel are having no scientific knowledge of management of housing, feeding, breeding and healthcare of animals etc. This shelters are not able to fully house all cattle due to inadequate space leading to unhygienic condition (Yadav, 2007) [11]. This leads to overcrowding of shelters which is detrimental to the welfare of the cows. Manpower is inadequate almost in every Gaushalas. Most of the Gaushalas do not have grazing land and whenever it is available, the Gaushalas management people have concept of only providing shelter and other aspects of improvement of cattle are totally neglected. Because of lack of lilliteracy and technical knowledge, innovative modern knowledge are not being considered by the management personal that is why even today old look of the Gaushalas have not changed (Chandra, S 2018) [2].
Most of the Gaushalas did not follow animal welfare or over crowded due to large number of animals. Besides, lack of sufficient space, monetary help, manpower and other facilities and resources for the proper upkeep and sustenance of cattle are a cause for concern. The ground reality is that most Gaushalas are overcrowded not only with old/handicapped/infertile cows but also with abandoned cows of indigenous breeds because of low milk productivity (Singh *et al*. 2020) [10].
Gaushalas are constraints also by the low availability of feed and fodder, high cost of concentrates, insufficient and erratic government grants, high incidence of reproductive disorder, lack of space and lack of adequate market information (Mandi *et al.*2018; Bijla *et al.* 2019) [5, 1].

Materials and Methods
The study randomly selected 40 Gaushalas from the Hingoli and Nanded districts of Maharashtra. These Gaushalas were categorized into small (less than 100 cattle), medium (between 100-150 cattle), and large Gaushalas (more than 300 cattle). Therefore, the 40 selected Gaushalas comprised 14 small-sized, 16 medium-sized, and 10 large-sized Gaushalas. Interviews were conducted with the selected Gaushala respondents in person, using well-structured and pre-tested interview questionnaires to gather relevant information. The detailed information required for the study was collected from each of the selected Gaushalas during the year 2022-2023.

Analysis of data

The constraints include the various problems encountered by the Gaushalas in maintaining a large population of cattle, most of which are unproductive and uneconomical. In order to find out the various problems faced by the Gaushalas, the broad categories of constraints were made namely housing constraints, breeding constraints, and feeding constraints, animal healthcare constraints and institutional constraints. These constraints were then ranked by the selected respondents and analyzed accordingly using Garrett Ranking Method. It is operationalized as all the factors which hinder the rearing of stray cattle. Then, the data was tabulated and analyzed by using Garret ranking technique to interpret the results. By using this technique, the orders of the merit given by the respondents were 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) [4]. 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.

Results and Discussion

Constraints refer to the challenges or obstacles encountered by Gaushala management when implementing daily good animal husbandry and management practices in their facilities. This study examined constraints across five categories, namely housing, breeding, feeding, healthcare, institutional, and general management. Stakeholders in the study area provided rankings for these constraints, which were then collected and analyzed using the Garret ranking technique. The results have been presented in Table 1 to Table 6.

Table 1: Constraints faced by the Gaushalas in housing practices

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Less space (shed)	16.5	2	28	5	96.7	4
2	Less space (open)	17.28	1	28.25	4	99	3
3	Poor quality roofing material	13.21	4	36.37	1	99.9	2
4	Lack of cleanliness	14.71	3	33.25	2	101.1	1
5	Lack of provision of cooling in summer	12	5	35.68	3	95.8	5

An analysis of result of housing constraints shown in table 1 indicate that small sized Gaushalas less space open (mean score 17.28) was first major constraint followed by less space shed (mean score 16.5) and lack of cleanliness (mean score 14.71) as second and third major constraint. Poor quality roofing material (mean score 13.21) and lack of provision of cooling in summer (mean score 12) as forth and fifth constraints faced by Gaushalas. In case of medium sized Gaushalas Poor quality roofing material (mean score 36.37) was first major constraint followed by lack of cleanliness (mean score 33.25) and lack of provision of cooling in summer (mean score 35.68) as second and third major constraint. less space shed (mean score 28.25) and less space open (mean score 28) as forth and fifth constraints faced by Gaushalas. In case of large sized Gaushalas lack of cleanliness (mean score 101.1) was first major constraint followed by Poor quality roofing material (mean score 99.9) and less space open (mean score 99) as second and third major constraint. Less space shed (mean score 96.7) and lack of provision of cooling in summer (mean score 95.8) as forth and fifth constraints faced by Gaushalas.

Cook *et al* (2004) [3] reported that lack of cleanliness, Poor quality roofing material was major constraints faced by Gaushalas.

Table 2: Constraints faced by the Gaushalas in breeding practices

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inferior bulls used for Natural Service (N.S)	16.5	3	49.75	1	119.5	2
2	Inadequate supply of quality breed specific semen	22.07	1	27.62	4	107.4	4
3	Timely heat detection	20.85	2	41.18	2	116.5	3
4	Incidence of reproductive disorders in cattle	14.28	4	40	3	149.1	1

The result presented in Table 2 it could be inferred that, in small sized Gaushalas inadequate supply of quality breed specific semen was ranked first (mean score 22.07) followed by timely heat detection and inferior bulls used for natural services was ranked second and third constraints with mean score 20.85 and 16.5 respectively. It was further observed that incidence of reproductive disorders in cattle (mean score 14.28) were ranked as fourth constraints respectively. In case of medium sized Gaushalas inferior bulls used for natural services was ranked first (mean score 49.75) followed by timely heat detection and incidence of reproductive disorders was ranked second and third constraints with mean score 41.18 and 40 respectively. It was further observed that inadequate supply of quality breed specific semen in cattle (mean score 27.62) were ranked as fourth constraints respectively. In case of large sized Gaushalas incidence of reproductive disorders was ranked first (mean score 149.1) followed by inferior bulls used for natural services and timely heat detection was ranked second and third constraints with mean score 119.5 and 116.5 respectively. It was further observed that inadequate supply of quality breed specific semen in cattle (mean score 107.4) were ranked as fourth constraints respectively.

Similar findings were also reported by Yadav *et al.* (2013) [12]

who revealed the poor quality of bull, lack of pedigree, AI services and prevalence of reproductive diseases. Similar findings were also been reported by Nagrale *et al.* (2015) [7] revealed that poor conception rate and poor AI result and veterinary facilities were found as major constraints.

Table 3: Constraints faced by the Gaushalas in feeding practices

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inadequate supply of green fodder round the year	16.57	3	24.93	4	102.3	2
2	Non availability of good quality concentrate feed	20.07	1	20.37	5	98.3	3
3	Low availability of dry Fodder	17	2	30	3	104.8	1
4	Non-availability of land for fodder production/grazing	10.64	5	35.06	2	92.4	5
5	Inadequate knowledge on balanced feeding	19.57	4	48.18	1	94.7	4

The result presented in table 3 indicate that small sized Gaushalas non-availability of good quality concentrate feed and low availability of dry fodder (mean score of 20.07 and 17) were perceived as most important constraints and ranked as first and second respectively. Inadequate supply of green fodder round the year and inadequate knowledge on balanced feeding (mean score 16.57 and 19.57) were ranked third and fourth constraint faced by Gaushalas. The other constraint non-availability of land for fodder production (mean score 10.64) was ranked fifth in study area. In case of medium sized Gaushalas that inadequate knowledge on balanced feeding and non-availability of land for fodder production (mean score of 48.18 and 35.06) were perceived as most important constraints and ranked as first and second respectively. low availability of dry fodder and Inadequate supply of green fodder round the year (mean score 30 and 24.93) were ranked third and fourth constraint faced by Gaushalas. The other constraint non-availability of good quality concentrate feed (mean score 20.37) was ranked fifth in study area. In case of large sized Gaushalas low availability of dry fodder and Inadequate supply of green fodder round the year (mean score of 104.8 and 102.3) were perceived as most important constraints and ranked as first and second respectively. Non-availability of good quality concentrate feed and inadequate knowledge on balanced feeding (mean score 98.3 and 94.7) were ranked third and fourth constraint faced by Gaushalas. The other constraint non-availability of land for fodder production (mean score 92.4) was ranked fifth in study area.

However a finding of Bijla *et al.* (2019) [1] reported that inadequate supply of green fodder round the year was the major feeding constraints.

Sabapara *et al.* (2012) [8] also reported that high cost of feed, non- availability of green fodder and lack of knowledge of balanced ration.

Table 4: Constraints faced by the Gaushalas in healthcare practices

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Poor knowledge about cattle health management	26.24	1	53.68	2	185.6	1
2	Lack of timely access to veterinary services	24.21	2	48.25	3	163	2
3	Prevalence of poor environmental hygiene.	23.35	3	56.62	1	143.9	3

An analysis of result of healthcare constraints shown in table 4 indicate that small sized Gaushalas poor knowledge about cattle health management (mean score 26.24) was first major constraint followed by lack of timely access to veterinary services (mean score 24.21) and prevalence of poor environmental hygiene (mean score 23.35) as second and third major constraint faced by Gaushalas. In case of medium sized Gaushalas prevalence of poor environmental hygiene (mean score 56.62) was first major constraint followed by poor knowledge about cattle health management and lack of timely access to veterinary services (mean score 53.68) and (mean score 48.25) as second and third major constraint faced by Gaushalas. In case of large sized Gaushalas poor knowledge about cattle health management (mean score 185.6) was first major constraint followed by lack of timely access to veterinary services (mean score 163) and prevalence of poor environmental hygiene (mean score 143.9) as second and third major constraint faced by Gaushalas, respectively.

Similar result found that Yadav, (2007) [11] reported that as a primary issue facing the administration of Gaushalas are shortage of trained personnel, inadequate resources and field veterinary professionals in India.

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

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Difficulty in registration Procedures	16.07	4	43.25	1	121.6	2
2	Inadequate infrastructure	21.74	1	34.18	4	119.2	3
3	Insufficient trained technical manpower	17.07	3	39.56	3	142.1	1
4	Inadequate credit facilities/funds/donations	18.85	2	40.93	2	109.6	4

The results of institutional constraints presented in table 5 and indicate that small sized Gaushalas an inadequate infrastructure (mean score 21.74) was major constraint faced by Gaushalas. It was further observed that inadequate credit facilities (mean score 18.85) and insufficient trained technical manpower (mean score 17.07) were second and third major constraint perceived by Gaushalas whereas difficulty in registration procedures (mean score 16.07) were fourth constraints faced by Gaushalas respectively. In case of medium sized Gaushalas an difficulty in registration procedures (mean score 43.25) was major constraint faced by Gaushalas. It was further observed that inadequate credit facilities (mean score 40.93) and insufficient trained technical manpower (mean score 39.56) were second and third major

constraint perceived by Gaushalas whereas inadequate infrastructure (mean score 34.18) were fourth constraints faced by Gaushalas respectively. In case of large sized Gaushalas an insufficient trained technical manpower (mean score 142.1) was major constraint faced by Gaushalas. It was further observed that difficulty in registration procedures (mean score 121.6) and inadequate infrastructure (mean score 119.2) were second and third major constraint perceived by Gaushalas whereas inadequate credit facilities (mean score 109.6) were fourth constraints faced by Gaushalas respectively.

Similar findings were also reported Mandi *et al*. (2020) [6] also reported that lack of funding, insufficient financial aid, lack of fodder supply, lack of access to technical services, bad infrastructure facilities and poor management were the major constraints faced by Gaushalas.

Table 6: Constraints faced by the Gaushalas due to general constraints

Sr. No.	Constraints	Small		Medium		Large	
		Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
1	Inadequate capital for Infrastructure development	12.5	3	28.56	3	57.7	6
2	Inadequate knowledge of cattle waste management	13.42	2	30	2	69	5
3	High rate of calf mortality	10.85	6	36.37	1	85	3
4	Inadequate Government support for training and development	12.07	4	20.06	5	100.2	2
5	High cost of inputs	13.57	1	25.81	4	107.7	1
6	Inadequate knowledge of scientific management	11.28	5	17.75	6	72.9	4

An analysis of results of general management table 6 constraints revealed that high cost of inputs (mean score 13.57) was most severe constraint followed by inadequate knowledge of cattle waste management (mean score 13.42) was the second major constraint and inadequate capital for infrastructure development (mean score 12.5) was the third major constraint. Inadequate government support for training and development (mean score 12.07), inadequate knowledge of scientific management and high rate of calf mortality (mean score 11.28 and 10.85) were perceived as fourth, fifth and sixth major constraints. In case of medium sized Gaushalas high rate of calf mortality (mean score 36.37) was most severe constraint followed by inadequate knowledge of cattle waste management (mean score 30) was the second major constraint and inadequate capital for infrastructure development (mean score 28.56) was the third major constraint. High cost of inputs (mean score 25.81), Inadequate government support for training and development and inadequate knowledge of scientific management (mean score 20.06 and 17.75) were perceived as fourth, fifth and sixth major constraints. In case of large sized Gaushalas High cost of inputs (mean score 107.7) was most severe constraint followed by Inadequate government support for training (mean score 100.2) was the second major constraint. High rate of calf mortality (mean score 85) was the third major constraint. Inadequate knowledge of scientific management (mean score 72.9), inadequate knowledge of cattle waste management and inadequate capital for infrastructure development (mean score 69 and 57.7) were perceived as fourth, fifth and sixth major constraints.

Similar findings were also reported Sharma *et al*. (2010) who reported that 59 percent livestock owner adopted deworming practices for prevention and control of parasitic infestation.

Conclusion

The study's findings indicate that the primary constraints in the housing category are insufficient open space and inadequate shed space. Concerning breeding, challenges include a shortage of quality breed-specific semen and the use of inferior bulls for natural service, attributable to a limited number of technical staff and a predominant population of non-descript cattle in Gaushalas. Feeding constraints encompass inadequate knowledge of balanced feeding and a lack of land for fodder production/grazing. In healthcare practices, hurdles involve poor knowledge of cattle health management and a lack of timely access to veterinary services. Institutional constraints encompass inadequate credit facilities/funds/donations and a shortage of trained technical manpower. These issues are attributed to insufficient supply, a shortfall of funds, and the complexity of the registration procedure. The study suggests that there is potential to enhance management practices in Gaushalas through sensitization, providing adequate training, disseminating appropriate technologies through extension activities, and implementing strong policies and financial support from various stakeholders involved in the promotion and development of Gaushalas. This approach is expected to contribute to the improvement and sustainability of Gaushalas' performance in the state**.**

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