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Studies on constraints faced by the gaushalas in Beed and Osmanabad Districts

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Abstract
The present study entitled, "Studies on Management Practices Adopted by the Gaushalas in Beed and Osmanabad District" was conducted in Beed and Osmanabad districts of Marathwada region of Maharashtra. The present study elicits that the composition of herd maintained in all the Gaushalas, 96.68 percent comprised of indigenous cattle and 3.32 per cent of crossbred cattle. The milk production in large sized Gaushalas was more as compared to small and medium sized Gaushalas. In case of overall adoption of management practices, most of the large sized Gaushalas performed better than medium and small sized Gaushala. Then on-adoption of management practices in small and medium Gaushalas was attributed to lack of resources and adequate training facilities. The major constraints of Gaushalas were, 'inferior quality of bulls',' limited access to veterinary services' and 'inadequate funds/capital and training'. The identified perceived important factors affecting the performance of Gaushalas were, 'regular financial support', 'good infrastructural facilities 'and 'Government support for training and development'. The present study concludes that there is a strong need to sensitize and train the Gaushalas management about the good management practices through adequate extension, policy and financial support for holistic development of Gaushalas in our country.

Keywords: Gaushalas, management practices, constraints, welfare

Introduction
Stray cattle are defined as the one that has no owner, strays across road/public place and wander without any proper destination or have no shelter. The stray cattle population in India is about 5 million which is over and above the 193 million cattle presents in the country. According to the Indian Government, stray animals, mainly cows, caused 1604 road accidents in 2016, leading to 629 human deaths. Stray cows on roads and streets are identified as a major cause of accidents in villages. Additionally, crop raiding by abandoned cows has resulted in human-animal conflicts, forcing farmers to abandon their crops, and cows are often mistreated. Gaushalas are essential in providing shelter to stray cows due to a religious ban on cow slaughter, leading to an annual increase in their numbers (Sharma *et al*. 2020) [6].
Gaushalas play a crucial role in preserving the cattle wealth of our nation. They primarily offer shelter to cows, addressing the needs of non-lactating, weak, unproductive, and stray cattle. Some leading Gaushalas also maintain a nucleus herd for in-situ conservation of indigenous purebred cows and produce high-quality males to boost the productivity of indigenous breeds (Mandi and Subhash 2020) [3].

Material and methods
Location: Maharashtra with a total area of 3,07,713 Sq.km. is the third-largest state by area in terms of land area and constitutes 9.36 per cent of India's total geographical area. The state lies between 15°35'N to 22°02'N latitude and 72°36'E to 80°54'E longitude. From the state of Maharashtra, we selected the Gaushalas from Beed and Osmanabad districts.
The sources and collection of data: The data for present investigation i.e. Management practices, constraints, profile of Gaushalas was recorded from 40 Gaushalas of the Beed and Osmanabad districts. The data of Gaushalas was collected by actual interviews with respondents of Gaushalas, by standard questionnaires.
Compilation of data: Data on specific parameters were gathered through interviews with respondents from Gaushalas, utilizing standardized questionnaires.

The study randomly selected 40 Gaushalas from the Beed and Osmanabad 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, 13 medium-sized, and 13 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 data collected were tabulated and analysed by using Garret ranking technique to interpret the results (Garret 1981).

Result 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 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 5.

Table 1: Constraints faced by the Gaushalas in housing practices

S.N	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Less space (shed)	66	2	67	2	69	2
2	Less space (open)	70	1	68	1	67	1
3	Poor quality roofing material	50	3	50	3	50	4
4	Lack of cleanliness	40	4	40	4	40	3
5	Lack of provision of cooling summer	24	5	24	5	24	5

The Table 1 presents constraints affecting different sizes of cattle farms, with emphasis on space, roofing quality, cleanliness and provision of cooling. In all farm sizes, less open space emerges as the major constraint, with the lowest Garret scores and top ranks (1 in medium and large, 2 in small). This suggests that inadequate open space is a critical issue regardless of farm size. The second major constraint is less shed space in small and large farms, highlighting the significance of both open and shed spaces for optimal cattle management. Poor quality roofing material is consistently identified as a concern across all sizes, emphasizing the importance of proper infrastructure. The provision of cooling in summer, while ranking lower, still represents a notable constraint in all farm sizes. Lastly, lack of cleanliness is identified as a moderate concern across all sizes. Addressing these issues, particularly improving open and shed space, ensuring quality roofing, and providing cooling, is essential. Similar findings were reported by Bijla *et al*. (2019) [1].

Table 2: Constraints faced by the Gaushalas in breeding practices

S.N.	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Inferior bulls used for natural service	65	1	57	2	58	2
2	Inadequate supply of quality breed specific semen	59	2	73	1	71	1
3	Timely heat detection	39	3	34	4	32	4
4	Incidence of reproductive disorders in cattle	38	4	36	3	37	3

In general, there were four important constraints expressed by the Gaushalas in adoption of breeding practices. From the Table 2 it could be inferred that, in small sized Gaushalas inferior bulls used for natural service was the first constraint since most of the bulls in Gaushala herd maintained were old and inferior bulls. inadequate supply of quality breed specific semen 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 lacked awareness and experience to detect the heat symptoms. In the case of medium sized Gaushalas, 'Inadequate supply of quality breed specific semen' was the first major constraint, 'Inferior bulls used for natural service' was the second and 'Incidence of reproductive disorder' was the third major constraint. In the case of large sized Gaushalas, 'Inadequate supply of quality breed specific semen' was the major constraints followed by 'Inferior bulls used for natural service' was the second major constraint as there were incidence of poor conception rate in Gaushalas.

Table 3: Constraints faced by the Gaushalas in feeding practices

SN	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Inadequate supply of green fodder round the year	55	2	52	3	47	4
2	Non-availability of good quality concentrate feed	24	5	24	5	24	5
3	Low availability of dry fodder	48	3	46	4	48	3
4	Non-availability of land for fodder production /grazing	46	4	54	2	60	2
5	Inadequate knowledge on balanced feeding	73	1	71	1	68	1

In general, there were mainly five important constraints expressed by the Gaushalas in adoption of feeding practices. The results in Table 3 indicate that, the livestock farming scenario analysis reveals nuanced challenges across small, medium, and large-size gaushalas. In terms of the inadequate supply of green fodder throughout the year, small-scale gaushalas demonstrate a relatively better situation, with a Garret score of 55 and a rank of 2. In contrast, medium-sized

gaushalas face a more pronounced challenge with a score of 52 (rank 3), while large-sized gaushalas experience the most significant constraint with a score of 47 (rank 4) non-availability of good quality concentrate feed is a consistent issue across all scales, with each receiving a score of 24 and a rank of 5. This suggests that gaushalas of different sizes encounter similar challenges regarding the quality and availability of concentrate feed. Concerning the low availability of dry fodder, medium-sized gaushalas face a slightly less severe problem with a score of 46 (rank 4) compared to small (48, rank 3) and large (48, rank 3) gaushalas. Similar findings were observed by Matre *et al.* (2020) [5].

Land availability for fodder production or grazing presents a significant challenge for larger gaushalas. The large scenario has the highest score (60, rank 2), followed by the medium scenario (54, rank 2), while the small scenario faces a comparatively less severe issue with a score of 46 (rank 4). The most critical constraint identified across all gaushala sizes is inadequate knowledge on balanced feeding. Small (73, rank 1), medium (71, rank 1), and large (68, rank 1) gaushalas all face a substantial gap in understanding, emphasizing the need for targeted interventions tailored to the specific challenges faced by each scale of gaushala.

Table 4: Constraints faced by the Gaushalas in healthcare practices

S.N.	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Poor knowledge about cattle health management	63	1	67	1	66	1
2	Lack of timely access to veterinary services	48	2	50	2	50	2
3	Prevalence of poor environmental hygiene	37	3	32	3	33	3

In general, there were mainly three important constraints expressed by the Gaushalas in adoption of healthcare practices. The results in Table 4 inferred that, all three scenarios rank high in poor knowledge about cattle health management, indicating a critical need for improvement in understanding and implementing effective health management practices. This constraint may lead to suboptimal health conditions, affecting the overall well-being and productivity of the cattle. Timely access to veterinary services is identified as a significant challenge across all scales. While medium and large Gaushalas share the same Garret score and Rank, the small scenario is slightly behind. Insufficient access to veterinary services may result in delayed health interventions, potentially impacting the overall health and productivity of the cattle.

Poor environmental hygiene is a concern in all Gaushalas, with the medium-sized Gaushalas having the lowest Garrett Score and Rank. Inadequate environmental hygiene can contribute to the spread of diseases, affecting the health and well-being of the cattle. This underscores the importance of implementing effective sanitation practices in cattle management.

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

S.N.	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Difficulty in registration procedures	29	4	30	4	34	4
2	Inadequate infrastructure	47	3	47	3	51	3
3	Insufficient trained technical manpower	58	2	58	2	54	2
4	Inadequate credit facilities/ funds/ donations	67	1	68	1	67	1

In general, there were mainly four important constraints due to institutional constraints. The results in Table 5 indicated that, Small-sized gaushalas face notable challenges in the registration process, with a Garret score of 29 and a rank of 4. While the difficulty in registration procedures is a concern, small gaushalas in terms of infrastructure (47, rank 3) is the third major constraints, trained technical manpower with (58, rank 2) is the second major constraint and inadequate credit facilities is major constraints for small sized Gaushalas with 67 Garret score and rank 1.

Medium-sized gaushalas encounter challenges in both registration procedures (30, rank 4) and infrastructure development (47, rank 3). They face the highest difficulty in securing trained technical manpower (58, rank 2). Despite these challenges, medium-sized gaushalas face the major constraint in credit facilities (68, rank 1). The focus for medium-sized gaushalas should be on simplifying registration, enhancing infrastructure, and addressing the shortage of trained personnel.

Large-sized gaushalas also grapple with registration complexities (34, rank 4) and insufficient infrastructure (51, rank 3). Similar to medium-sized gaushalas, they face challenges in securing trained technical manpower (54, rank 2). However, large gaushalas face the major constraint of inadequate credit facilities with (67, rank 1). For large-sized gaushalas, efforts should concentrate on streamlining registration processes, improving infrastructure, and addressing the shortage of skilled personnel. The findings are line with Man. (2018) [4].

The underlying cause for this phenomenon could be attributed to the fact that, while the majority of large-sized Gaushalas possessed sufficient manpower, they lacked the necessary technical skills. Additionally, inadequate funds and infrastructure facilities were observed, posing a challenge in meeting the growing population of cattle in large-sized Gaushalas over time.

In general, there were mainly six important general constraints faced by Gaushalas. The results in Table 6 indicated that, in small sized Gaushalas, ‘inadequate Government support for training and development’ was the first major constraint, ‘inadequate knowledge of scientific management’ was the second major constraint and ‘inadequate knowledge of cattle waste management’ was the third major constraint. In the case of medium size Gaushalas, ‘inadequate Government support for training and development’, ‘inadequate knowledge of scientific management’ and ‘inadequate knowledge of cattle waste management’, ‘high cost of inputs’ were the major constraints. This might be due to the reason that in most of the small and medium size Gaushalas they had insufficient

sources of funding due to which they lacked funds for creation of infrastructure facilities. Whereas, in the case of large sized Gaushalas 'Inadequate Government support for training and development' was the first major constraint, followed by 'inadequate knowledge of cattle waste management', high cost of inputs were the major constraints. This might be due the reason that majority of the large sized Gaushalas were not funded by Government and the low availability of skilled labours.

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

S.N.	Constraints	Small		Medium		Large	
		Garret Score	Rank	Garret Score	Rank	Garret Score	Rank
1	Inadequate capital for infrastructure development	43	4	39	5	39	5
2	Inadequate knowledge of cattle waste management	50	3	47	3	47	4
3	High rate of calf mortality	36	5	36	6	31	6
4	Inadequate Government support for training and development	77	1	74	1	74	1
5	High cost of inputs	31	6	45	4	49	3
6	Inadequate knowledge of scientific management	60	2	56	2	56	2

Conclusions

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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