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Housing management practices prevailed among buffaloes owners in Vindhya region of Madhya Pradesh

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Abstract
The present research was conducted to collect data on housing management practices prevalent in the Vindhya region of Madhya Pradesh. The researcher acquired the data personally through face-to-face interviews and analyzed them by frequency and percentage. The present study revealed that majority (73.44%) the respondents followed group housing system and 92.92% respondents followed the loose type of buffalo housing, while 7.08% of the respondents follow conventional type of housing. The majority of respondents (92.50%) followed single row and only 7.50% were housed their buffaloes in double row housing system, whereas 82.92% of houses were mud type of floor followed by 12.50% and 4.58% of respondents followed a pucca (cemented/concrete) type of floor respectively. The majority of respondents (91.67%) had thatched type roof followed by G.I. sheets roof, 6.25% and cemented, 2.08% roofs, respectively. Results also indicated that majority (92.92%) of respondents had satisfactory level of drainage in buffaloes shed, while 7.08% of the respondents had poor level of drainage. About 86.25% respondents followed the practice of cleaning buffalo shed while, 67.50% respondents had provision of shade from trees for their buffalo, while the rest, 32.50% did not provide their buffaloes a provision of shade from trees. It was also observed that 75.42% of respondents had provision of water trough in buffaloes shed, while 24.58% of respondents did not provision of water trough \and 50.83% of respondents had no sufficient light while, only 49.17% of respondents had sufficient light in shed.

Keywords: Buffaloes, housing, respondents, management and Vindhya

Introduction
The livestock sector, which has been practiced in India since ancient times, is very important to the rural economy. The presence of livestock within a community has the potential to alleviate poverty by offering employment opportunities, generating income, ensuring food security, and supplying farmers with valuable organic fertilizers. The implementation of various dairy co-operative societies and dairy agricultural development projects has resulted in a notable rise in the population of milch animals, with a particular emphasis on buffalo. This preference for buffalo is attributed to their higher profitability and productivity compared to cows (Khan and Parashari, 2019) [1].

According to the 20th cattle census, India possesses around 536.76 million animals. The population of buffalo in India is at 109.85 million, reflecting a 1.1% increase compared to the last livestock census. India is now the leading country in terms of buffalo population worldwide. Buffaloes make for around 20.5 percent of the overall cattle population (Anonymous, 2020) [2]. India holds the top position in terms of total milk production, amounting to 198.44 million tonnes, representing a growth of 5.69 percent compared to the preceding year. Buffalo accounts for 48.34 percent of India's overall milk output, while the per capita milk availability is at 406 grams per day per person (Anonymous, 2021) [3].

Understanding how farmers in the Vindhya area of Madhya Pradesh take care of their buffaloes is very important for improving the output of buffaloes and the economy of milk producers. Additionally, it is beneficial to pinpoint the raising system's strong points and weaknesses in order to develop effective intervention strategies (Sivaji *et al.*, 2018) [4]. The

interactions between each component of management practice, either individually or collectively, have an effect on the productivity of the cattle. The management approaches used to rear livestock have a substantial impact on their production capacity, and these techniques vary greatly among agro-ecological zones. The provision of appropriate housing facilities for the animals not only reduces the energy wasted in thermoregulation, but also provides excellent hygienic conditions, reduces the incidence of diseases, protects them from predators, and improves the dairy farmers' working conditions. Therefore, it is necessary to acquire data on the housing management practices of buffalo owners in the Vindhya region of Madhya Pradesh.

Materials and Methods

The present study was conducted in Vindhya region of Madhya Pradesh during 2020-21. The Vindhya region of Madhya Pradesh state comprises of four districts namely Rewa, Satana, Sidhi and Singrauli. Three tehsils were selected randomly from each identified district. From each selected tehsil, two villages were then randomly chosen using simple lottery method (Table 1). After the selection of the villages, a preliminary survey was conducted in the selected villages to know the total number of farmers practicing dairy farming. Among these selected villages, 10 buffalo owners as respondents were chosen randomly from each selected villages. Thus the total respondents of the study were 240 dairy farmers. In this study, an exploratory research design and a multistage random sampling technique were employed to select respondents. The farmers' interview schedule regarding buffalo housing management practices and their constraints were developed and pilot-tested prior to implementation in our main sample area. The farmers' houses and fields were visited informally and amicably in the early morning hours to gather data. The acquired data underwent analysis to determine the frequency and percentage.

Table 1: Selected district, tehsils and villages of Vindhya region of Madhya Pradesh state

District	Tehshil	Village
Rewa	Teonther	Maghigawan and Barha
	Jawa	Banigawan and Janakhai kalan
	Hanumana	Khatkhari and Gauri
Satna	Nagod	Semarwara and Bamhaur
	Maihar	Podi and Bharauli
	Raghuraj Nagar	Rampur and Guluwa
Sidhi	Sihawal	Bithauli and Bichhri
	Gopdbanas	Upani and Bhatha
	Majhauli	Tala and Saraiha
Singrauli	Chitrangi	Pondi (Bagdari) and Kusahi
	Deosar	Jhara and Jiawan
	Waidhan	Harrahawa and Tiyara

Results and Discussion

Housing management practices for buffaloes

The provision of adequate housing for buffaloes is vital to ensure their comfort and optimize the exploration of their genetic potential, with this view, the information obtained on the housing managemental practices opted by the buffalo owners in Rewa, Satna, Sidhi and Singrauli were presented in Table 2 to 13.

Rearing system followed for the dairy buffaloes

The results of existing type of rearing system followed for the dairy buffaloes are presented in Table 2. Majority (73.44%) the farmers followed group housing system where the buffaloes were not housed individually and their feeding, resting, milking etc. occurred in common premises. Remaining 26.56% of the farmers followed individual housing of buffaloes which may be due to their good economic condition or awareness amongst farmers through different sources of media etc. The results were in agreement with the findings of Kalyankar *et al*. (2008) [5], Sabapara *et al*. (2010a) [6] and Sabapara *et al*. (2015) [7]. The district wise results of present investigation investigated that the majority about 80.00%, 66.67%, 76.67% and 70.00% of respondents followed group type of buffalo l housing, while only 20.00%, 33.33%, 23.33% and 30.00% of the respondents followed individual type of buffalo housing in Rewa, Satna, Sidhi and Singrauli district respectively.

Almost all of the farmers did not keep their buffaloes in a single location all year, or even for a whole day and night. Proper housing for buffaloes not only minimizes energy waste in maintaining a thermal neutral zone, but also offers good sanitary conditions, decreases illness incidence, protects them from predators, and improves working conditions for farmers. The majority of respondents chose to keep their buffaloes near to their homes so that they could view them more regularly.

Table 2: Rearing system followed for the dairy buffaloes

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Individual	12	20.00	20	33.33	14	23.33	18	30.00	64	26.56
Group	48	80.00	40	66.67	46	76.67	42	70.00	176	73.44

(N and% indicate the number and percentage of respondents, respectively)

Type of buffalo housing for dairy buffaloes

It was observed that 92.92% of respondents followed the loose type of buffalo housing, while 7.08% of the respondents follow conventional type of buffalo housing in the Vindhya region of Madhya Pradesh. The district wise results of present investigation indicated that majority about 85.00%, 100.00%, 86.67% and 100.00% of respondents followed the loose type of buffalo housing, while only 15.00%, 0.00%, 13.33% and 0.00% of the respondents follow conventional type of buffalo housing in Rewa, Satna, Sidhi and Singrauli district respectively (Table 3). The finding of present study was

similar to the findings of Vikas *et al.* (2018) [8], Kishore *et al.* (2013) [9] and Manohar *et al.* (2014) [10].

Table 3: Type of buffalo housing for dairy buffaloes

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Conventional	9	15.00	0	0.00	8	13.33	0	0.00	17	7.08
Loose	51	85.00	60	100.00	52	86.67	60	100.00	223	92.92

(N and% indicate the number and percentage of respondents, respectively)

Arrangement of buffaloes inside shed

The arrangement of buffalo in shed adopted by the dairy farmers in the study area has been presented in Table 4. The results revealed that in the Vindhya region buffalo rears mainly practiced to house their buffaloes in a single row 92.50% only few rears 7.50% were housed their buffaloes in double row housing system. The district wise results of present investigation also revealed that about 88.34%, 100.00%, 81.66% and 100.00% respondents followed the single row arrangement of buffalo in shed, while 11.66%,0.00%,18.34%,0.00% of the respondent follow the double row arrangement of buffalo in Rewa, Satna, Sidhi and Singrauli district, respectively. It could be attributed to the fact that, single line housing will be cost effective for construction of shed. The results were in line with the findings of Ahirwar *et al.* (2010) [11] and Vranda *et al.* (2017) [12].

Table 4: Arrangement of buffaloes inside shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Single row	53	88.34	60	100	49	81.66	60	100	222	92.50
Double row	7	11.66	0	00	11	18.34	0	0.00	18	7.50

(N and% indicate the number and percentage of respondents, respectively)

Type of floor in buffaloes shed

The type of floor in buffalo shed adopted by the dairy farmers in the study area has been presented in Table 5. The results revealed that in the Vindhya region 82.92% buffalo houses in the area were mud type of floor followed by 12.50% and 4.58% of respondents followed a pucca (Cemented/ Concrete) and brick type of floor in buffalo shed, respectively. This may be due to high cost of cement/concrete flooring and due to the fact that cement flooring are generally slippery thus requiring regular maintenance also they have comparatively higher chances of occurrence of hoof disorders. The findings were in accordance with Meena *et al.* (2008) [13] and Kumar *et al.* (2011) [14].

The district wise results of present investigation showed that majority about 61.67%, 93.33%, 81.67% and 95.00% of respondents followed mud type of floor in buffalo shed, while 21.67%, 6.67%, 16.67% and 5.00% of the respondents follow concrete type of floor and 16.67%, 0.00%, 1.67% and 0.00% of the respondents follow brick type of floor in buffalo shed in Rewa, Satna, Sidhi and Singrauli district respectively.

The majority of buffalo huts had kuchcha floors, which were both earthen and muddy in nature. Farmers believed that buffaloes felt at ease while sitting and standing. The current study's findings were consistent with those of Sabapara *et al.* (2010) [15], Singh *et al.* (2007) [16], and Chowdhary *et al.* (2006) [17]. It has been observed that pucca floors are preferable than clay floors for buffaloes in terms of worm control as well as sanitary reasons. The respondents in this survey were ignorant of these issues, and they mostly preferred clay floors since they were inexpensive and pleasant for buffaloes.

Table 5: Type of floor in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Pucca	13	21.66	4	6.67	10	16.67	3	5.00	30	12.50
Mud	37	61.67	56	93.33	49	81.67	57	95.00	199	82.92
Brick	10	16.67	0	0.00	1	1.67	0	0.00	11	4.58

(N and% indicate the number and percentage of respondents, respectively)

Type of roof in buffaloes shed

The type of floor in buffalo shed adopted by the dairy farmers in the study area has been presented in Table 6. The results revealed that 91.67% of respondents under the present study had thatched type roof followed by G.I. Sheets roof, 6.25% and Cemented, 2.08% roofs, respectively. None of the respondents had asbestos sheets roof. The maximum buffalo houses had thatched type roof, which might be due to its easy availability, cheap cost and comparatively lower maintenance.

The district wise results of present investigation indicated that the majority about 70.00%, 66.67%, 60.00% and 56.67% of respondents used thatched as roof materials to the buffaloes shed and 6.67%, 10.00%, 1.66% and 11.67% of the respondents used pacca roof (Cemented/concrete) and 15.00%, 23.34%, 21.665 and 31.66% of the respondents used Asbestos sheets while 8.33%, 0.00%, 16.67% and 0.00% of the respondents used G.I. Sheets as roof materials to the buffaloes shed in Rewa, Satna, Sidhi and Singrauli district, respectively.

The farmers' preference for thatched as a roof material for the shed may be a result of its simplicity and affordability. According to Patel *et al.* (2019) [18], respondents preferred iron sheets over thatched and asbestos sheets, which were used for buffalo shelters. According to Vikas *et al.* (2018) [8], the majority of respondents utilized asbestos/tin to roof their sheds, which was followed by stone slabs, cement, and thatch. According to Vranda *et al.* (2017) [12], the majority of farmers utilized galvanized iron sheet to construct their sheds.

Table 6: Type of roof in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Thatched	42	70.00	40	66.66	36	60.00	34	56.67	152	63.33
Pucca	4	6.67	6	10.00	1	1.67	7	11.67	18	7.5
Asbestos sheets	9	15.00	14	23.34	13	21.66	19	31.66	55	22.92
G.I. Sheets	5	8.33	0	0.00	10	16.67	0	0.00	15	6.25

(N and% indicate the number and percentage of respondents, respectively)

Ventilation inside buffaloes shed

The data on ventilation in buffalo shed adopted by the dairy farmers in the study area has been presented in Table 7. The results showed that 86.67% and 4.16% of farmers has satisfactory level and good ventilation arrangements in their buffalo shed while, 9.17% of the respondents had poor ventilation. Present results were in agreement with the findings of Sharma and Singh, 2003 [19], Pawar *et al.*, 2006 [20], Kumar, 2015 [21] and Sabapara *et al.*, 2015 [7]. The contrary result by Ahirwar *et al.* (2009) [22] who reported 70.33% of respondents provided inadequate ventilation in buffalo houses of rural areas of Indore district of Madhya Pradesh which, might be due to the lack of awareness of dairy farmers

The district wise results of present investigation found that among the farmers who provided housing, the majority about 85.00%, 91.67%, 83.33% and 86.67% of respondents had satisfactory level of ventilation in the buffalo shed and only 8.34%, 0.00%, 5.00% and 3.33% of the respondents have good ventilation, while 6.66%, 8.33%, 11.67 and 10.00% of the respondents had poor ventilation in Rewa, Satna, Sidhi and Singrauli district, respectively.

This phenomenon might potentially be attributed to the heightened consciousness among dairy producers. The results of this study align with the findings of Pawar *et al.* (2006) [20], Bainwad *et al.* (2007) [23], and Vikas *et al.* (2018) [8], which indicated that a majority of the participants reported having adequate ventilation in their buffalo barns, while a smaller proportion reported fair or inadequate ventilation. The findings are inconsistent with the research conducted by Ahirwar *et al.* (2009) [22], which indicated that a significant number of participants reported insufficient ventilation in buffalo housing facilities.

Table 7: Ventilation inside buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Good	5	8.34	0	0.00	3	5.00	2	3.33	10	4.16
Satisfactory	51	85.00	55	91.67	50	83.33	52	86.67	208	86.67
Poor	4	6.66	5	8.33	7	11.67	6	10.00	22	9.17

(N and% indicate the number and percentage of respondents, respectively)

Drainage system in buffaloes shed

The distribution of the dairy farmers according to their age is presented in Table 8. Results indicated that in the Vindhya region majority (92.92%) of respondents had satisfactory level of drainage in buffaloes shed, while 7.08% of the respondents had poor level of drainage. None of the respondents were having good drainage facilities. The present findings were in agreement with the findings of Sabapara *et al.* (2015) [7]. The district wise results of present investigation was observed that majority about 93.33%, 100.00%, 78.33% and 100.00% of respondents had satisfactory level of drainage in buffaloes shed, while 6.67%, 0.00%, 21.67% and 0.00% of the respondents poor level of drainage and None of the respondents were having good drainage facilities in Rewa, Satna, Sidhi and Singrauli districts, respectively.

The implementation of a drainage system within the buffalo shed facilitates the efficient flow of urine, hence preventing the accumulation of moisture within the premises. This advantageous feature contributes to the overall well-being and health of the buffaloes. The buffalo shed lacked a drainage system, resulting in the accumulation of urine on the clay floor. The absence of proper drainage and urine absorption results in the development of moisture and unsanitary conditions. The proliferation of ticks was seen to be more prevalent in the lower regions of the environment under consideration. In order to mitigate such circumstances, several farmers implemented the practice of regularly altering the soil bedding or repositioning the buffaloes.

The findings were consistent with the studies conducted by Kishore *et al.* (2013) [9] and Kumar *et al.* (2017) [24], which reported a significant percentage of participants having a concrete drain in their animal shelter. This study demonstrated the level of awareness among animal owners on the advantages of using a pucca drain in animal sheds. The result of the present study was contrary to Atkare *et al.* (2016) [25] and Patel *et al.* (2019) [18] who revealed that only few percent of respondents had provision of pucca drainage facility in buffalo shed, while majority had no drainage facility and urine soaked in earthen floor of animal shed

Table 8: Drainage system in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Good	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0.00
Satisfactory	56	93.33	60	100.00	47	78.33	60	100.00	223	92.92
Poor	4	6.67	0	0.00	13	21.67	0	0.00	17	7.08

(N and% indicate the number and percentage of respondents, respectively)

Buffaloes shed cleaning per day

The distribution of the buffalo farmers according to their shed cleaning per day is presented in Table 9. The perusal of overall result revealed that 86.25% farmers followed the practice of cleaning buffalo shed whenever required followed by 9.17% of farmers who followed cleaning of sheds once a day and remaining farmers, 4.58% followed cleaning of shed twice a day. The results are in line with Kour (2013) [26] and Singh *et al.* (2015) [27].

The district wise results of present investigation revealed that majority about 63.34%, 100.00%, 81.67% and 100.00% respondents cleaned their shed whenever required in buffalo shed, while 18.33%, 0.00%, 18.33% and 0.00% of the respondents cleaned their shed once a day and only 18.33%, 0.00%, 0.00% and 0.00% of the respondents cleaned their shed twice a day in Rewa, Satna, Sidhi and Singrauli district respectively**.**

According to the findings of Kishore *et al.* (2013) [9], it was noted that the majority of farmers cleaned their sheds on an infrequent basis, whereas just a small percentage of farmers cleaned their sheds once a year. In a study conducted by Gaikwad *et al.* (2019) [28], it was noticed that a significant proportion of participants engaged in daily washing of their buffaloes. This was followed by those who washed their buffaloes on a weekly, fortnightly, and monthly basis, with a smaller percentage falling into the latter category. Nevertheless, a consistent and regular schedule for carrying out this work, be it on a daily, weekly, fortnightly, or monthly basis, was lacking. In their study, Gaikwad *et al.* (2019) [28] observed that the majority of marginal, small, big, and landless workers engaged in the practice of cleaning sheds. However, a smaller percentage of marginal, small, large, and landless labourers did not engage in this practice. Furthermore, it was observed that both farmers and landless workers engaged in the practice of udder cleaning before to milking.

Table 9: Buffaloes shed cleaning per day

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Once	11	18.33	0	0.00	11	18.33	0	0.00	22	9.17
Twice	11	18.33	0	0.00	0	0.00	0	0.00	11	4.58
Whenever required	38	63.34	60	100.00	49	81.67	60	100.00	207	86.25

(N and% indicate the number and percentage of respondents, respectively)

Provision of tree shade in buffaloes shed

Observations with regard to provision of tree shade in housing management practices adopted by various categories of buffalo owners are presented in Table 10. The majority of the farmers (67.50%) had provision of shade from trees for their buffalo, while the rest, 32.50% did not provide their buffaloes a provision of shade from trees. This shows that the farmers are aware about protecting their buffaloes from heat stress, by adopting the practice of tying their buffaloes under shady tress. The results was in close agreement with the findings of Bhardwaj *et al.* (2003) [29] and Sabapara *et al.* (2010a) [6].

The district wise results of present investigation showed that majority about 60.00%, 83.33%, 60.00% and 66.67% of buffalo houses had provision of shade from trees, while 40.00%, 16.67%, 40.00% and 33.33% of the buffalo houses had no provision of shade from trees in Rewa, Satna, Sidhi and Singrauli district respectively**.** Reasons for this include the fact that building next to a farmer's home or under a tree's canopy will save money. According to Vranda *et al.* (2017) [12], the vast majority of farmers kept their buffaloes in an open area near their home, while only a tiny minority kept them in a shed or under a tree.

Table 10: Provision of tree shade in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
YES	36	60.00	50	83.33	36	60.00	40	66.67	162	67.50
NO	24	40.00	10	16.67	24	40.00	20	33.33	78	32.50

(N and% indicate the number and percentage of respondents, respectively)

Size of manger in buffaloes shed

Present result regard to size of manger in housing management practices adopted by various categories of buffalo owners are presented in Table 11. The majority of buffaloes (80.42%) assess feed in adequate sized manger whereas, and 19.58% were assessed feed in inadequate size mangers. The district wise results of present investigation showed that majority about 93.33%, 80.00%, 78.33% and 70.00% of buffaloes assessed their feed in adequate sized manger whereas, only 6.67%, 20.00%, 21.67% and 30.00% were assessed feed in inadequate size mangers in Rewa, Satna, Sidhi and Singrauli districts, respectively. The results were in agreement with Mishra *et al.* (2018) [30] who reported majority of buffaloes assess their feed in adequate sized manger whereas, lesser percent were assessed feed in inadequate size mangers.

Table 11: Size of manger in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Adequate	56	93.33	48	80.00	47	78.33	42	70.00	193	80.42
Inadequate	4	6.67	12	20.00	13	21.67	18	30.00	47	19.58

(N and% indicate the number and percentage of respondents, respectively)

The data pertaining to provision of water trough in buffaloes shed is presented in table 11. It was observed that 75.42% of respondents had provision of water trough in buffaloes shed, while 24.58% of respondents did not provision of water trough in buffaloes shed. The district wise results of present investigation was found that majority about 76.67%, 80.00%, 68.33% and 76.67% respondents followed watering of buffaloes through water trough in buffaloes shed, whereas, 23.33%, 20.00%, 31.67% and 23.33% respondents did not had water trough for drinking. It is good practice to provide water manually to buffalo for prevention of water born disease. Chance of water born disease occurrence is more in community water trough.

Table 12: Provision of water trough in buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Yes	46	76.67	48	80.00	41	68.33	46	76.67	181	75.42
No	14	23.33	12	20.00	19	31.67	14	23.33	59	24.58

(N and% indicate the number and percentage of respondents, respectively)

The results were in agreement with Vikas *et al.* (2018) [8], they found that majority of percent of respondents have water trough in animal shed. The result of the present study was contrary to Patel *et al.* (2019) [18], they found that majority of respondents followed watering of buffaloes manually (with bucket) and only lesser number of respondents followed community water trough.

Provision of lighting facility inside in buffaloes shed

Provision of lighting facility inside in buffaloes shed are presented in Table 13. It was observed that 50.83% of respondents had no sufficient light while only 49.17% of respondents had sufficient light in shed. The district wise results of present investigation revealed that 75.00%, 23.33%, 66.67% and 31.67% respondents had provision of light in buffalo shed whereas, 25.00%, 76.67%, 33.33% and 68.33% of the respondents did not had provision of light in buffalo shed in Rewa, Satna, Sidhi and Singrauli district respectively. The light in the buffalo shed makes it easier to keep an eye on sick or pregnant buffalo at night. The present results were in agreement with Vranda *et al.* (2017) [12], Pata *et al.* (2018) [31], Vikas *et al.* (2018) [8] and Patel *et al.* (2019) [18], they found that majority of percent of respondents made provision of lighting either by bulb or tube light in buffaloes shed.

Table 13: Provision of lighting facility inside buffaloes shed

Category	Rewa		Satna		Sidhi		Singrauli		Total/Overall	
	N	%	N	%	N	%	N	%	N	%
Yes	45	75.00	14	23.33	40	66.67	19	31.67	118	49.17
No	15	25.00	46	76.67	20	33.33	41	68.33	122	50.83

(N and% indicate the number and percentage of respondents, respectively)

Conclusion

The present investigation clearly shows that buffalo owners did not provide suitable housing for their buffaloes, and only a small number of people were able to establish separate houses for their buffaloes. The ventilation and drainage facilities in the residing shed were not found to be adequate in the location. Based on above noticeable facts it could be concluded that housing management practices prevailed among buffalo keepers in the Vindhya district of Madhya Pradesh were not in line of standard recommendations and there is much scope to improve them.

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