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## Existing status of buffalo husbandry practices in Jabalpur

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#### Abstract

An extensive survey was made to collect the information on buffalo husbandry practices in the six adopted villages of Jabalpur district of Madhya Pradesh through specially designed questionnaires on buffalo husbandry practices. Total number of respondents selected for the study was 60. Majority of the buffalo owners had small herd size with more experience (> 10 years) in buffalo farming and highest buffaloes owners observed in village Ghana. About 31.66 percent of the farmers fed their animals wheat straw as dry fodder, majority fed home prepared concentrate mixture to their animals. 65 percent follow heat detection practice regularly based upon behavioral signs of estrus and 68.34 percent used natural service method of for breeding. 60 percent of the farmers housed their buffaloes beside their own house whereas 40 percent of the farmers had separate animal shed. Majority of (68.34%) respondents treated their sick animals by Veterinary Doctor/ AVFO followed by quacks. About all (100%) the buffalo owners isolated their sick animals from healthy ones.

**Keywords:** Buffalo husbandry practices, dry fodder, heat detection, animal shed, quacks

#### 1. Introduction

India has made remarkable strides in the arena of dairy development. It has 50 percent (58 million) of the world buffalo's population. The role of buffalo as a main milk producing species is well known especially because buffalo is the main source of marketable surplus milk in India. Scientific research in field of buffalo farming is moving very fast. Breeding and Health care management like preventive measures, vaccination, deworming and timely treatments ensure proper health of animals that promotes their productivity. Exposure and use of appropriate information by poor livestock owners will help them to improve knowledge enabling them to obtain more output from their animals, thereby helping them to move out from the poverty. Keeping in view, above a comprehensive study was conducted to find out the various husbandry practices followed by the buffalo keepers in rural area of Jabalpur in the aspects of feeding, breeding management and health care.

#### 2. Material and Methods

The present study was conducted purposively in six adopted villages of Jabalpur district of M.P, which were adopted by the Nanaji Deshmukh Veterinary Science University, Jabalpur. Village Ghana, Padaria, Silua, Chattarpur, Kailwas and Deori had 20, 15, 10, 7, 5 and 3 buffalo owners respectively. Thus, the final sample sizes of 60 buffalo owners are selected. The data were collected by personal interview techniques through an interview schedule by administering a developed questionnaire and also by direct observation in the farmers. Milch buffalo's herd of the respondents comprised of Murrah and nondescript buffalo. The various parameters were included to analyze the existing status of buffalo farming practices such as herd structure, feeding, breeding, management and health care practices were separately enlisted.

#### 3. Results and Discussion

##### 3.1 Existing Herd Structure of Buffaloes

It can be observed that in the entire six adopted villages, there were 893 farm families were present at the time of study. Out of which 60 farm families were rearing buffaloes. The highest numbers of buffaloes keepers were observed in village Ghana and found to be 20 in numbers whereas in village Padaria, Silua, Chattarpur, Kailwas and Deori, it was 15, 10, 7, 5 and 3 buffalo owners respectively.

Out of them, the maximum 90 buffaloes were observed in village Ghana followed by Padaria (58 buffaloes), Silua (35 buffaloes), Deori (27 buffaloes) and lowest number of buffaloes were found in villages Chattarpur i.e. 21 buffaloes in each. The average number of buffalo population per household was highest (09 buffaloes) in village Deori followed by village Ghana (4.5 buffaloes), Kailwas (4.2 buffaloes), Padaria (3.86 buffaloes), Silua (3.5 buffaloes) and lowest in Chattarpur (03 buffaloes). On an average, 4.67 numbers of buffaloes per household was observed in the study area. The findings are in consonance with the findings of Sharma and Diwedi (2007)<sup>[11]</sup> and Vidya *et al.* (2009)<sup>[11]</sup> who found that a high majority (88.33%) possessed small herd and the rest (11.67%) had large herd.

### 3.2 Herd size

The study reveals that majority of the buffalo owners (78.33%) had small herd size (<6) followed by 18.34 and 3.33 percent respondents with medium (6-12) and large herd size (>12), respectively. The result is in consonance with the findings of Sharma and Diwedi (2007)<sup>[11]</sup> and Vidya *et al.* (2009)<sup>[16]</sup> who found that a high majority (88.33%) possessed small herd and the rest (11.67%) had large herd.

### 3.3 Buffalo farming experience

The findings reveals that majority of the buffalo owners (48.33%) had more experience (> 10 years), followed by 28.34 and 23.33 percent respondents with medium (5-10 years) and less experience (< 5 years), respectively. The finding of the study was analogs with the result of Fami (2000)<sup>[11]</sup>.

### 3.4 Feeding practices

The results of the present study revealed in table 01 that the majority of buffalo owners practice open grazing to animals followed by semi stall feeding while 65 percent of the respondents are allowed for grazing on common pasture land. The similar findings were observed by Deoras *et al.* (2004)<sup>[2]</sup>; Rathore *et al.* (2010)<sup>[9]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup> in their studies in various regions of India. Majority of farmers (70%) practiced to feed dry fodder as such and only 30 percent of the farmers offered chaffed dry fodders. The majority (85%) of the respondent fed home prepared concentrate mixture to their animals followed by mixture of home prepared and readymade (13.33%) and readymade (1.66%). The findings of study is in line with the finding of Chowdhry *et al.* (2006)<sup>[1]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup> reported that majority of the respondents fed home prepared concentrate mixture to their animals. Only 36.66 percent respondents regularly provided extra salt to their milch animals similar findings were reported by Singh *et al.* (2007)<sup>[12]</sup>, Rathore *et al.* (2010)<sup>[9]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup>. In contrast to present findings Sohane *et al.* (2004)<sup>[10]</sup> and Malik *et al.* (2005)<sup>[6]</sup> observed supplementation of common salt followed by 60.74 and 88 percent respondents, respectively, in their surveys. Whereas, the mineral mixture supplements were provided regularly by only 25 percent of farmers to their milch animals. It might be due to the dairy farmers not aware about the benefits of mineral mixture feeding and unwillingness in use due to additional cost of mineral mixture they have to incur for feeding. More or less similar findings were reported by Modi (2003)<sup>[5]</sup>, Chowdhry *et al.* (2006)<sup>[1]</sup>, Rathore *et al.* (2010)<sup>[9]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup>.

### 3.5 Breeding practices

The results of the present study revealed in table 02 that among the various behavioral signs of estrus, majority (46.66%) of farmers believed on mucus discharge and bellowing as the symptoms of heat, whereas 33.34 percent of the farmers trusted only on mounting, followed by frequent urination and mucus discharge. Similar findings were reported by Patel *et al.* (2005)<sup>[7]</sup>, Chowdhry *et al.* (2006)<sup>[1]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup> in North Gujarat. Natural service practiced by majority of farmers. Higher proportion of use of natural service may be due to the non availability of good infrastructure facilities for artificial insemination (AI), preservation and timely AI services in the study area. The study findings also reveals that maximum percentage of farmers adopted pregnancy diagnosis practice by own judgments followed by AI workers and qualified veterinarian. This finding is in contrast with findings of Sabapara *et al.* (2010)<sup>[13]</sup>. The results of the present studies are indicative of very high level of awareness regarding this most important economic trait of dairy animal.

### 3.6 Management practices

The study data revealed in table 03 that 60 percent of the farmers housed their buffaloes beside their own house whereas 40 percent of the farmers had separate animal shed. The similar findings was found by Vranda *et al.* (2017)<sup>[17]</sup> while the results differ with the findings of Vijay *et al.* (2008)<sup>[15]</sup>, who reported that majority of the farmers had separate shed for animals. Majority of farmers were prepared roof by locally available materials followed by galvanized iron sheet (18.33%). Vranda *et al.* (2017)<sup>[17]</sup> and Sinha *et al.* (2010)<sup>[14]</sup>, in their study reported contrast findings. The majority of the farmers (71.66%) provide manger for feeding their buffaloes. About all (100%) of the farmers provided adequate light and ventilation in the shed. Regarding the summer management in buffaloes, majority of the farmers (93%) practice summer management practices to protect buffaloes from extreme heat. But very few i.e. 18.33 percent of the farmers took management care to protect buffaloes from extreme cold.

### 3.7 Health care practices

The data related to health care practices followed by buffalo owners are revealed in table 04 that the vaccination was adopted by 26.66 percent of the respondents for their animals against foot and mouth disease and hemorrhagic septicemia disease while, 73.33 percent of the farmers did not follow vaccination practice against these diseases. The present findings are encouraging than finding of Singh *et al.* (2007)<sup>[12]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup>. This practice was widely accepted by farmers which might be due to high level of awareness regarding protecting the animals from diseases by vaccination. Regular deworming in buffaloes was followed by only 10 percent of the respondents whereas, 20 percent of the respondents followed occasionally and remaining 70 percent of the farmers did not practice the deworming. This finding is well comparable with finding of Pawar *et al.* (2006)<sup>[8]</sup> and Sabapara *et al.* (2010)<sup>[13]</sup>. It is also observed that very few (10%) respondents practiced deworming to their calves at regular interval. Regarding the sanitary condition of shed, it was found that 90 percent animal's sheds cleaned and had good condition followed by satisfactory (10%). The majority of (68.34%) respondents treated their sick animals by Veterinary Doctor/ A.V.F.O followed by 31.66 percent of the respondents got treated their sick animals by quacks. The

study data also revealed that all (100%) the buffalo owners isolated their sick animals from healthy ones. The percentage of respondents perception regarding availability of veterinary facilities as good, satisfactory and poor was indicated as 33.33, 41.66 and 25 percent, respectively. This finding is well comparable with finding of Rathore *et al.* (2010) [9] but lower than reported by Kumar *et al.* (2006) [4]. Based on the observations collected it may be concluded that enhanced productive and reproductive performance of buffaloes and also a good amount of income can be generated by providing scientific knowledge to the buffalo owners about buffalo rearing, which will not only be remunerative as source of income for livelihood but also contribute to the nutritional security.

**Table 1:** Feeding practices, (n=60)

Particulars	Frequency	Percent
<b>Feeding system of animals</b>		
Stall feeding	00	00.00
Semi stall feeding	14	23.34
Grazing	46	76.66
<b>Site of grazing</b>		
Common pasture land	39	65.00
Harvested fallow field	21	35.00
<b>Type of dry fodder</b>		
Wheat straw	19	31.66
Maize, Bajra and Jowar stover	41	68.34
<b>Method of dry fodder feeding</b>		
As such	42	70.00
Chaffed	18	30.00
<b>Method of green fodder feeding</b>		
As such	24	40.00
Chaffed	36	60.00
<b>Type of concentrate mixture</b>		
Home prepared	51	85.00
Readymade	01	01.66
Mixture of home prepared and Readymade	08	13.34
<b>Feeding of common salt</b>		
Regularly	22	36.66
Occasionally	05	08.34
Not feeding	33	55.00
<b>Feeding of mineral mixture</b>		
Regularly	15	25.00
Occasionally	07	11.66
Not feeding	38	63.34
<b>Frequency of Watering</b>		
2 times	10	16.66
3 times	11	18.34
Free access of water	39	65.00

**Table 2:** Breeding practices, (n=60)

Particulars	Frequency	Percent
<b>Heat detection</b>		
Yes	60	100.00
No	00	00.00
<b>Methods of heat detection</b>		
Symptoms	60	100.00
Teaser	00	00.00
<b>Symptoms of heat detection</b>		
Mucus discharge	05	08.34
Mucus discharge + bellowing	28	46.66
Frequent urination	07	11.66
Mounting	20	33.34
<b>Method of breeding</b>		
Natural service	41	68.34
Artificial insemination	19	31.66
<b>Pregnancy diagnosis (PD)</b>		
Yes	51	85.00
No	09	15.00
If yes, then		
Own judgments	23	38.34
Qualified veterinarian	18	30.00
AI worker	19	31.66
<b>Calving interval</b>		
12–15 months	34	56.67
16–18 months	16	26.67
More than 18 months	10	16.66

**Table 3:** Management practices (n=60)

Particulars	Frequency	Percent
<b>Housing system</b>		
Beside their house	36	60.00
separate animal shed	24	40.00
<b>Roof type</b>		
By locally available material	49	81.67
Galvanized iron sheet	11	18.33
<b>Manger</b>		
Provided	43	71.66
Not provided	17	28.34
<b>Provision of light and ventilation</b>		
Adequate	60	100.00
Not adequate	00	00.00
<b>Summer management</b>		
Practiced	56	93.34
Not practiced	04	06.66
<b>Winter management</b>		
Practiced	11	18.33
Not practiced	49	81.66

**Table 4:** Health care practices, (n=60)

Particulars	Frequency	Percent
<b>Vaccination (FMD &amp; HS)</b>		
Practiced	16	26.66
Not practiced	44	73.34
<b>Deworming of milch animal</b>		
Regular	06	10.00
Occasional	12	20.00
Not practiced	42	70.00
<b>Deworming of calves</b>		
Regular	06	10.00
Occasional	03	05.00
Not practiced	51	85.00
<b>Sanitary condition of shed / shelter / standing place</b>		
Good	54	90.00
Satisfactory	06	10.00
Poor	00	00.00
<b>Treatment of sick animal by</b>		
Veterinary doctor/ A.V.F.O	41	68.34
Quacks	19	31.66
<b>Isolate the sick animals from healthy animals</b>		
Yes	60	100.00
No	00	00.00
<b>Availability of Veterinary facilities</b>		
Good	20	33.34
Satisfactory	25	41.66
Poor	15	25.00

#### 4. Conclusion

The majority of the buffalo owners (78.33%) had small herd size in adopted village with 48.33 percent had high (>10 years) buffalo farming experience. They were allowed for grazing on pasture land. Only 36.66 and 25 percent of the farmers regularly fed common salt and mineral mixture respectively to their buffalo. Majority (85%) of the buffalo owners followed pregnancy diagnosis. It was also observed that 68.34 percent of the respondent were treated their sick animal by Veterinary Doctor/A.V.F.O. and majority isolated their sick animals from healthy animals. Hence, majority of buffalo owners are not aware about scientific rearing of buffalo's particularly breeding, feeding, healthcare and management.

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