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Present status of buffalo farming practices in Madhepura district of Bihar

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Abstract

The experiment was conducted to investigate the present status of buffalo farming practices in Madhepura district of Bihar. The data were collected from Madhepura and Kumarkhand block of Madhepura district as these two blocks had maximum population of buffaloes during the study period, August 2016. During study no lady were found work alone in handling and milking practices of buffalo, this may due to the aggressive behaviour of animal.

Keywords: Buffalo, Madhepura, present status, practices

1. Introduction

India is predominantly an agrarian country with animal husbandry playing significant role in accelerating the growth of rural economy and thus it is a backbone of agricultural based farming sector. Out of the total agricultural GDP of India, livestock sector contributed about 27.25 per cent during 12th five year plan, 2012-13, of which maximum contribution was from dairy sector (Anonymous, 2014) [1].

The buffalo (*Bubalus bubalis*) holds the greatest promise for food security and sustainable development in the 21st century as these animals form an integral part of the typical farming system in India. In India, the buffalo has been the backbone of the rural economy. It is the mainstay in the production of butter and ghee. Not only this, the buffalo is also considered more useful for reasons of higher fat content in milk, its ability to utilize agricultural by-products more efficiently and requirement for fewer kilo calories to produce 1 litre milk. The buffalo has been the friend of small farmers, often their largest capital asset.

The buffalo is one of the major livestock species contributing to the livelihood security of farmers in villages. It can thrive in adverse climatic conditions using sparse vegetation. The major buffalo breeds are Murrah, Surti, Nili Ravi, Jafravadi and Mehsana. Buffaloes are mainly reared by socially and economically backward people of the society for whom they act as a store of wealth of high liquidity, a resource for meeting the household nutritional security and a source of regular income.

The farmers rear buffalo mainly in an extensive management system using traditional management practices relying on common pasture land for grazing. Buffaloes in India are spread over almost all parts of the country with varying population density, majority being concentrated in the north and western state where most of milch breeds of buffalo are found and holds strategic place in overall livestock economy and serve three important purposes such as milk, meat and draught power supply (Cockrill, 1974) [2].

Buffalo can efficiently utilise the roughages and crop by-products into high quality milk suitable for a wide range of dairy products including butter, milk powder, mozzarella, cheese, khoya, curd, yoghurt etc. India's livestock sector is one of the largest sectors in the world. Dairy farming is one of the important activities of the rural population of our country. Dairy is the most suitable production system that has enormous potential to improve the socioeconomic status of the large percentage of the rural population. The bulk of milk production is in the hands of numerous landless, marginal and small farmers scattered all over the country. For farmers, livestock are becoming an increasingly important source of income. Dairy farming had contributed as food basket, nutrition security, and household income of the farmers and play a significant role in generating gainful employment in the rural areas throughout the year. India ranks first in the world with annual milk production of 155.5 million tonnes. Most of the milk produced is by animals reared by small farmers and landless labourers.

The per capita availability of milk was an average of 337 g per day in India and Bihar ranks 16th with 184 g per day (BAHS, 2010-11). As per CPCB 2013 there are 907 slaughter house in India of which only 3 in Bihar. Meat production in India from buffaloes is 805 thousand tonnes from 6890 thousand slaughtered buffaloes and Bihar ranks 6th with 42 thousand tonnes meat production from 677 thousand slaughtered buffaloes (FICCI survey, 2013). In India Uttar Pradesh holds 1st rank in buffalo population with 28.17 per cent of total buffalo population and Bihar ranks 6th with 6.96% of total buffalo population and in terms of number it is 7567.23 thousand. Among the districts of Bihar Madhepura district has the highest buffalo population (10.84%). The second and third position belongs to Madhubani and Motihari with share of buffalo population of 5.02 and 4.5 per cent respectively. In order to augment milk production, increase productivity and income, as well as animal health is universally recognised to generate self-employment, Present status of buffalo farming practices were studied. During the study a total of 19 practices were taken having several sub categories which are mentioned in table 1. The generated data will act as the backbone of the future strategies to be taken by different stake holders for the benefit of the buffalo farmers in the study area as well as in similar situations.

2. Material and Method

The present study was conducted in Madhepura district of Bihar, as the buffalo population was highest as per 19th livestock census in Bihar. Two blocks namely Madhepura and Kumarkhand was purposively selected as these two blocks had largest population of buffalo in Madhepura district. From each blocks, 5 villages were selected randomly. Therefore, a total of 10 villages were selected for the present study. From each village 10 buffalo farmers were randomly selected, thus forming a total sample size of 100. Respondents were interviewed personally with the help of pre-structured schedule developed for the study. The structured schedules were administered to the respondents for data collection. In this regard buffalo farmers were requested to give their response against each specified categories of farming practices. Each major farming practices (19) comprises of several sub categories (70). The statistical method used for data collection is percentage

3. Result and Discussion

3.1 Shed

From table 3 it is clear that majority of the respondents (52%) had shed for keeping buffalo, while 29 per cent had semi-constructed shed and only 19 per cent of the respondents had no shed for keeping buffalo. These findings is in line with the finding of Sarker *et al.* (2013) who found majority of respondents kept their buffaloes mainly with extensive system of housing.

3.2 Feeding type

It is clear from table 1 that majority of the respondents (49%) practiced both stall feeding and free range feeding. Out of this, only 2 per cent offered free range type of feeding while 23 per cent only stall feeding.

3.3 Grazing pattern

It is evident from table 1 that majority of the respondents (77%) offered grazing in herd and 5 per cent respondents offered the same individually. However, some of the

respondents (18%) were not engaged in allowing grazing to their buffaloes.

3.4 Grazing land

Table 1 also reveals that 52 per cent of the respondents allowed grazing in free land while 18 per cent of respondents did not allow grazing and equal number of farmers allowed grazing in their own land. 16 per cent of the farmers were also found who allowed grazing in both free land and own land.

3.5 Mineral mixture supplement

Table 1 depicts that 40 per cent of the respondents provided mineral mixture in their feed regularly followed by irregularly (38%) and 22 percent provided when needed i.e. in case of pregnancy, weakness and when milk production decreases.

3.6 Water source

Table 1 shows that majority of the respondents (60%) farmers provided drinking water to the animals from any available source while 35 per cent provide fresh water and only 5 percent offered drinking water to the animals from pond.

3.7 Breeding process

From the table 1 it is clear that majority of the farmers (51%) preferred natural process of breeding while 36 percent preferred artificial insemination process as breeding to the animal. It was also found that 13 percent of the respondent farmers used both natural service and A.I for breeding.

3.8 Pregnancy diagnosis

Table 1 depicts that majority of the respondents (58%) reported that PD of their animal was performed by either by veterinary doctors or non-trained practitioner whereas 42 per cent farmers did not regularly diagnosed their animals for pregnancy test.

3.9 Consultancy services for treatment

From table 1 it is evident that 41 percent of the respondents consulted veterinary doctors for treatment of their animal and 55 percent consulted paravets (LDA). None of the farmers were found to consult experienced animal owners for treatment of animal.

3.10 Deworming

A perusal of Table 1 reveals that majority of the respondents (43%) maintained regular deworming schedule. Only 16 per cent respondents provide dewormer, when animal refused to take feed. While it was also found that 41 per cent of the respondents had no idea about deworming. This might be due to their low level of knowledge or low level of education or believe in traditional indigenous technology method or less contact with trained practitioner or lack of awareness. Gupta *et al.* (2014)^[3] also found lack of awareness about deworming practices among the respondents farmer.

3.11 Vaccination

Table 1 depicts that majority of the respondent farmers (56%) did not follow vaccination schedule while only 20 per cent followed regular vaccination schedule and 13 per cent followed it irregularly. This was also found that about 11 per cent of the respondents had no idea about vaccination. This might be due to their improper knowledge about vaccination, low level of education or due to less contact with the veterinarian.

3.12 Management during pregnancy

Table 1 reveals that majority of the respondents (55%) allowed restricted grazing and no respondents were found to provide extra mineral mixture and concentrates during pregnancy. Only one respondent was reported that he provide both mineral mixture and concentrates at a time to the pregnant animal. Only 2 respondents were found to provide separate place for pregnant animal. 27 per cent of the respondents were also found who provided added mineral mixture, more concentrate feed, restricted grazing, and separate place at a time to the pregnant animal. 13 per cent were also found who offer added mineral mixture, more concentrate feed and restricted grazing at the same time to the pregnant animal. Only 1 respondent was found who offered restricted grazing and separate place at the same time to the pregnant animal. Variation in management practices might be due to variation in the income of the farmers, availability of land and available space for animal.

3.13 Parturition management

Table 1 reveals that very few (15%) of the respondents were reported to consult veterinary doctors during parturition. This might be due to high consultancy charge of veterinary doctor, while 39 per cent were reported to perform self care and they call either veterinarians or non-trained practitioner in handling of critical case during parturition. Majority of the respondents (44%) was found to consult non-trained practitioner during parturition. This might be due to their less fee for consultancy as compared with veterinary doctors.

3.14 Colostrum feeding

Table 1 reveals that majority (76%) of the respondents were not found to colostrum fed to the new born within 1 hour of birth, while only 21 percent farmers were found to offered colostrum to new born within 1 hour of birth, 3 per cent of the farmers were also found to have no idea about colostrum feeding. This variation might be due to the fact that many respondents were found not to call veterinarian or expert practitioner as they charge more fee during delivery (parturition) of animal. They called them only in critical

condition. So we can say only those new born got colostrum whose owner consulted well trained practitioner during their birth.

3.15 Milking time and interval

During data collection it was observed that all the respondents followed milking twice daily in morning and evening, but not at a fixed time. Table 3 depicts that only 14 per cent respondents were found who practiced milking twice daily approximately at fixed time and 86 per cent were found who did not follow fixed time interval between consecutive milking.

3.16 Utensils used for milking

It is evident from table 3 that only 1 respondent used milking pen during milking whereas 48 percent used bucket and 51 per cent used any types of utensil during milking by the milker. When asked about the size of utensils used for milking, the respondents replied that, it depends upon the amount of milk.

3.17 Handwash

Table 1 clearly shows that most of the respondents (66%) wash their hand generally by clean water before milking followed by antiseptic liquid (1%) and soap (25%), 8 percent of the respondents till date were also reported to use soil and ash for washing hands of these some were also using only stagnant water for washing of hand.

3.18 Milking practices

Table 3 shows that in majority (86%) cases milking was performed by man while in 14 per cent cases by both man and women.

3.19 Buffalo caring

Regarding caring of buffaloes, it was found that in majority cases (55%) it was done by male member of the family while in 45 per cent cases it was done by both man and women (Table 1).

Table 1: Distribution of present status of buffalo farming practices

Sl. No.	Farming practices	Categories	Percentage	Mean±S.E
1.	Shed	No shed	19	1.10±0.06
		Have shed	52	
		Semi shed	29	
2.	Feeding type	Stall feeding	23	2.79±0.10
		Free range	02	
		Both	49	
		Depends on availability	26	
3.	Grazing pattern	No grazing	18	1.60±0.07
		Individual	05	
		Herd	77	
4.	Grazing land	Not allowed	16	1.69±0.08
		Own land	16	
		Free land	52	
		Both (own land and free land)	16	
5.	Mineral mixture supplement	Regular	38	1.82±0.72
		Irregular	40	
		When needed	22	
6.	Water source	Fresh water	35	2.26±0.09
		Pond water	05	
		Any available source	60	
7.	Breeding process	Natural	51	1.61±0.06
		AI	36	

		Both	13	
8.	Pregnancy diagnosis	Yes	58	0.41±0.05
		No	42	
9.	Consultancy for treatment	Veterinary doctor	41	1.67±0.06
		Non trained practitioner	55	
		Experienced animal owner	00	
		Any other	04	
10.	Deworming	Regular	43	1.98±0.08
		When animal refuses to take feed ⁴¹	16	
		No idea	41	
11.	Vaccination	No	56	1.21±1.41
		Regular	20	
		Irregular	13	
		No idea	11	
12.	Management during pregnancy	Added mineral mixture	00	4.05±0.12
		More concentrate feed	00	
		Restricted grazing	55	
		Alone	02	
		All above four	27	
		All except alone shelter	13	
		Restricted grazing and alone shelter	01	
		Added mineral mixture and more concentrate feed	01	
13.	Parturition management	Veterinary doctor	15	3.14±0.09
		Soft bedding	01	
		Self care and call vet doc, non trained practitioner/LDA	39	
		Non trained practitioner	44	
		Call any experienced owner/farmer	00	
		Keep animal in separate place	01	
14.	Colostrum feeding	Within 1 hour (after birth)	21	1.84±0.05
		Not fixed within 1 hour	76	
		No idea	03	
15.	Milking time and interval	Twice daily approximately at fixed time	14	1.85±0.03
		Twice daily but not at fixed time	86	
16.	Utensils used for milking	Milking pen	01	2.94±0.05
		Bucket	48	
		Any type of utensils	51	
17.	Handwash	Soil, stagnant water and ash	08	2.35±0.11
		Antiseptic liquid	01	
		By clean water	66	
		Depends on hand condition	00	
		Soap	25	
18.	Milking practice	Man	86	1.26±0.06
		Women	00	
		Both	14	
19.	Buffalo caring	Man	55	1.88±0.08
		Women	00	
		Both	45	

4. Conclusion

All farming practices were dependent on the availability of resources, facilities and knowledge level of the farmers. Practices like milking and handling, none of buffalo farmers were found under the command of women, this may be because of their hard handling behaviour, 55(%) by man and 45(%) by mutual participant.

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