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Cattle and Buffalo Management Practices in Etawah District of Uttar Pradesh

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Abstract A study was carried out to find out dairy animals management practices adopted by the rural dairy herds in Etawah district of Uttar Pradesh. The farm owners are mostly in the age group of 25 to 50 years and their mean in 38 years, for the medium category of dairy herds it was 30 to 50 years and their mean is 41 years and for the large category of dairy herds the range of age group was 28 to 58 years and their mean was 42 years. Education is concerned most of thedairy herds in different categories of dairy herds were literate and the highest education qualification was High School. Mostly dairy herds were male and married, but some dairy farmer has been seen unmarried. Family size of most of the dairy herds was in the range of 10,6,12 as the maximum and for the minimum 4 member in the family. The total annual income of the dairy herds were in the range of an average 14500, 20000, and 69500 Rs, small, medium and large dairy farmers' categories contain 20,17,10 in cows, 22,25,12 in buffaloes and 23,33 and 39 respectively numbers of dairy herds both type (cows and buffalo). On total 47 dairy herds were having only cows, 59 dairy herds were having buffalo and 94 farmers had both cow and buffalo. The small, medium and large dairy herds categories contains 40, 45 and 45 in loose type, 8, 10 and 0 in barn type, while 15, 10 and 15 respectively, numbers of dairy herds in both types, and tying system single row 65, 65 and 50, double row (face to face) system 0, 0 and 0, double row (tail to tail) system 0, 10 and 10 respectively, number of dairy herds. Likewise, in calving system suckling type 65, 66 and 45, in weaning type 0, 0 and 0, in both 0, 9 and 15, respectively, numbers of dairy farmers. Also, in type in pucca 25, 25 and 25, in kaccha 20, 20 and 25, in both types 15, 30 and 20 respectively, numbers of dairy farmers. All categories of dairy herds the concentrate, green and dry feed is given two times in a day. The small, medium and large dairy herds categories contains 50, 35 and 40 in natural breeding system, in AI type 0, 16 and 0, and in both type of breeding system were 15, 24 and 25 respectively. In daily wages small, medium and large dairy herds categories having 27, 32 and 20 in male, 0,0 and 9 in female; 38, 43 and 40 numbers of dairy herds in both the small, medium and large dairy herds categories having 65, 75 and 60 respectively, number of dairy herds in hand milking, two times milking per day is done in all dairy herds categories, 0 numbers of dairy herds adopt machine milking in all dairy herds categories. The veterinary facilities on the small, medium and large dairy herds contains 0, 15, and 5 in on dairy herds type, 65, 40 and 45 in off dairy herds type, and 0, 20 and 10. All number of farmers having source of water of its own and private which were available on some dairy herds and other side of dairy farms.

Keywords Cattle, Buffalo, Management practices, Breeding system.

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Introduction

India is blessed with huge bovine population of 199.075 million cattle and 105.34 million buffaloes, (19th livestock census 2012 All India Report Dep of AH Dairyieng & Fisheries). It accounts for 57.3% of the world's buffalo population and 16% of the cattle world's population in India, India is the largest milk producer in the world, is set to produce over 132.43 million tonnes in during the 2013-2014, with the annual growth rate for production of milk is about 3.54% and with per capita availability of milk 296 g day in India (Annual report 2012-2013 Dep of AH, Dairying and Fisheries). Uttar Pradesh is the highest milk producer in the India. The milk production of Uttar Pradesh 22556 thousand MT (Annual report 2013-2014, Uttar Pradesh Livestock Development Board), and the per capita availability of milk in Uttar Pradesh 310 g day (NDDB 2013-2014, Dep of AH, Dairying and Fisheries). Mainly the buffalo which is considered to be the backbone of Indian dairy industry constitutes less than 40% of bovine population, but accounts more than half of the total milk production of the country. India has the large number of the buffaloes in the world.

The state of Uttar Pradesh consist 190.97 lakhs cattle and 264.40 lakhs buffaloes, population. In due state of Uttar Pradesh, Etawah district having average cattle and buffalo population being 4.98 lakhs. (Annual report 2013-2014, uttar Pradesh Livestock Development Board). The poor potential of Indian milch animals primarily reflects their poor deeding status, resulting in slow growth rate, advanced age at first calving, short lactation periods, irregular calving, long calving intervals and prolonged dry period.

Materials and Methods

In this part the methodology selected in the study are describe in the following head to ascertain the research work and the achievement of research goal. The heads which studies are presented in the following subtitles according to the objectives selected in the study : 1. Locale of the study; 2. Identification and selection of the dairy herds; 3. Preparation of the dairy instrument; 4. Collection of data and sampling design.

Locale of the study

As understood from the title, this study was carried out on the dairy herds situated with the central upland and plains of Uttar Pradesh. My research study on Etawah district which situated in South-Western part of the Uttar Pradesh at Chambal and Yamuna River. Etawah in Uttar Pradesh is famous for its Bhadawari breeds of buffalo and Jamunapari breed of goats.

Identification and selection of the dairy herds

The proposed study will be conducted in Etawah district of Uttar Pradesh. Etawah district have 5 Tehsil, 8 Biocks, 5 Blocks will be selected for his research work from Etawah district. From each block 10 villages will be selected and each village will 4 families selected randomly. In total functional head of 200 household will be interviewed personally. To collect information regarding different daily routine in dairy operation viz. Milk production performance, Feeding performance, Breeding performance, Management practices.

Table 1. Socio-economic characteristics of different dairy herds owners.

	Small			Medium			Large		
Factors	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
Age	50	25	38	50	30	41.6	58	28	42.2
Education	Matr	Primary	-	Primary	HS	-	Matri	Intermediate	-
Gender	Male	M/F	-	M/F	Male	-	M/F	Male	-
Marital status	Married	Unmm	-	Marri	Marri	-	Marr	Marr	-
Family size	10	4	8	6	4	6.1	12	5	9.2
Ann. income	20000	10000	14500	25000	15000	20000	50000	85000	69500

Table 2. The type of animal present on the selected dairy herds.

Type of Dairy herds/ Animals	Cow	Buffalo	Both
Small	20	22	23
Medium	17	25	33
Large	10	12	38
Total	47	59	94

The data were collected in standard schedule on the four following parameters :

i. Land holdings:
- Marginal farmers- Less than 1 ha
- Small farmers- Between 1 and 2 ha
- Semi medium farmers- 2 to 4 ha
- Medium- 4 to 10 ha
- Large- more than 10 ha

ii. Herd size:
- Small- upto 5 animals
- Medium- 5-10 animals
- Large- more than 10 animals

iii. Breeds:
- Cattle-
- Buffalo-
- Both-

iv. Milk production:
- Low milk production- up to 5 l day
- Modium milk production- 5-10 l day
- Large milk production- More than 10 l day

Collection of data and sampling design

The data were collected using the performa of the questionnaire during the period 2015-2016. For this the dairy herds were visited by the author individually for the few days and time spend by the workers in doing various operations and the cost spend on the various items of input at the farms were recorded by actual observations and the various farm records. Additional information was obtained by discussion and interviews with owner and persons working in the dairy herds from the recordes: 1. For the socio-economic characteristics of the farm owner; 2. Exiting animal pattern on the dairy farm ; 3. Existing housing pattern on the dairy farm; 4. Percentage of animal on different categories of farm ; 5. Existing pattern of feeding on the farm; 6. Existing pattern of breeding on the farm; 7. Existing pattern of labor on the farm; 8. Existing of milking on the farm; 9. Existing pattern health care on the farm; 10. Existing pattern of source of water on the farm.

Results and Discussion

For the very first objective, the survey of the different dairy herds has been carried out and deta regarding different heads are presented in the following table for the achievement of the aforesaid goal. This table includes socio-economic characteristics of different dairy farms owners, existing animal's pattern on the farm. Percentage of animal on different categories on the farm, housing pattern, breeding pattern, labor pattern, milking pattern health care pattern and source of water has been tabulated (Table 1).

It has been seen that in small categories of dairy

Table 3. The existing housing pattern, tying system, calf rearing and floor type present on the selected dairy herds.

Type to dairy farmers	System of housing			Tying system			Calf rearing			Floor type		
	Loose	Bran	Both	Single row	Dou Face to face	Ble row Tail to tail	Suckling	Weaning	Both	Pucca	Kaccha	Both
Small	40	0	25	65	-	-	65	0	0	30	20	15
Medium	55	10	10	65	-	10	75	0	0	25	20	30
Large	45	-	15	50	-	10	60	0	0	25	15	20

Table 4. Percentage of animals on different categories of dairy herds.

Sl. No.	Category of dairy farmers	Milking percent	Dry percent
1.	Small	40.95	59.04
2.	Medium	46.84	53.15
3.	Large	60.41	39.58
	Total	51.14	48.85

farmers, the farm owners are mostly in the age group of 25 to 50 years and their mean is 38 years, for the medium category of dairy herds it was 30 to 50 years and their mean is 41 years and for the large category of dairy herds the range of age group was 28 to 58 years and their mean was 42 years. As far as, education is concerned most of the dairy herds in different categories of farm were literate and the highest education qualification was intermediate. Mostly dairy herds were male and married, but some dairy farmer has been seen as female and only few were unmarried. Family size of most of the dairy herds was in the range of 10,6,12 as the maximum and for the minimum 4 member in the family. The total annual income of the dairy herds were in the range of an average 14500, 20000, and 69500 Rs respectively for the small, medium and large category of dairy farmers as was earlier reported [1].

The above table and adjoining figure shows that in small, medium and large dairy farmers' categories contain 20,17,10 in cows, 22,25,12 in buffaloes and 23,33 and 39 respectively numbers of dairy herds both type (cows and buffalo). On total 47 dairy herds were having only cows, 59 dairy herds were having buffalo and 94 farmers had both (Table 2).

In system of housing according to above table and adjoining figure,the small, medium and large dairy herds categories contains 40, 55 and 45 in loose type, 0, 10 and 0 in barn type, while 25, 10 and 15 respectively, numbers of dairy herd sin both types, and tyinh system single row 65, 65 and 50, double row (face to face) system 0,0 and 0, double row (tail to tail) system 0, 10 and 10 respectively, number of dairy herds. Likewise, in calving system suckling type 65, 75 and 60, in weaning type 0, 0 and 0, in both types 0, 0 and 0, respectively, numbers of dairy farmers. Also, in type in pucca 30, 25 and 25, in kaccha 20, 20 and 15, in both types 15, 30 and 20 respectively, numbers of dairy farmers. According to Rathore et al. [2], Sarap et al. [3] (Table 3).

Table 5. Existing pattern of feeding on the dairy herds.

Type of dairy farmers	Concentrate (No. of time in a day)	Green fodder (No. of time in a day)	Dry fodder (No. of time in a day)
Small	2	2	2
Medium	2	2	2
Large	2	2	2

Table 6. Existing pattern of breeding on the dairy herds.

Type of dairy farmers	System of breeding		
	Natural	AI	Both
Small	50	0	15
Medium	35	16	24
Large	40	0	20

According to above table and adjoining figure, in small category of dairy herds only about 41% of animals were in milking and rest of the 59% of the animals are dry. In case of medium category of dairy herds about 47% of the animals were in milking condition and rest of the about 53% of the animals were in dry condition. In case of large category of dairy herds about 51% of the animals were in milking condition and rest of the about 49% in dry condition. As far as all categories of dairy herds were concerned only about 51% of the animals in milking condition and rest were in dry condition. According to Akila and Chander [4] (Table 4).

In all categories of dairy herds according to adjoining figure and table viz. small, medium and large type of dairy herds the concentrate; green and dry feed is given two times in a day [5] (Table 5).

Table 7. Existing pattern of labor on the dairy herds.

Type of dairy farmers	Daily wages			Permanent		
	Male	Female	Both	Male	Female	Both
Small	0	0	0	20	30	15
Medium	0	0	0	30	20	25
Large	0	0	0	15	25	20

Table 8. Existing pattern of milking on the dairy herds.

Type of dairy farmers	Milking system Hand milking Full hand, Striping, Knuckling (All)	No. of milking done (per day)	Machine
Small	65	2	0
Medium	75	2	0
Large	60	2	0

In system of breeding, according to the above table and adjoining figure, in the small, medium and large dairy herds categories contains 50, 35 and 40 in natural breeding system, in AI type 0, 16 and 0, and in both type of breeding system were 15, 24 and 20 respectively [6] (Table 6).

In daily wages small, medium and large dairy herds categories having 0, 0 and 0 in male, 0,0 and 0 in female; 0, 0 and 0 numbers of dairy herds in both. Similarly, in permanent20, 30 and 15 male, 30, 20 and 25 in female and 15, 25 and 20 both numbers of dairy farmers. Expenditure on green fodder and concentrate had a positive effect on milk yield in all categories; expenditure on dry fodder or human labor had a negative effect on milk yield in the landless category [7, 8] (Table 7).

According to above table and adjoining figure, which shows the method of milking system, the small, medium and large dairy herds categories having 65, 75 and 60 respectively, number of dairy herds in hand milking, two times milking per day is done in all dairy herds categories, 0 numbers of dairy herds adopt machine milking in all dairy herds categories (Table 8).

Table 9. Existing pattern health care on dairy herds.

Type of dairy farmers	Veterinary		
	On dairy farmers	Off dairy farmers	Both
Small	0	65	0
Medium	15	40	20
Large	5	45	20

In this category the available of veterinary on the small, medium and large dairy herds contains 0, 10, and 5 in on dairy herds type, 65, 45 and 45 in off dairy herds type, and 0, 20 and 20 respectively, of dairy herds in both types as it is evident in the above table and adjoining figure. According to some past studied the small farmers were ahead to medium farmers. However, the large farmer's level of adoption for the health care practices was found to be higher to be higher as compared to other categories of farmers [9] (Table 9).

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