Int.J.Curr.Microbiol.App.Sci (2019) *8*(5): 1240-1248

International Journal of Current Microbiology and Applied Sciences
***ISSN: 2319-7706* Volume 8 Number 05 (2019)**
Journal homepage: http://www.ijcmas.com

Original Research Article https://doi.org/10.20546/ijcmas.2019.805.141

Socioeconomic Status and Livestock Study of Bihar, India

Vinod V. Potdar*, Jayant R. Khadse, Sachin A. Joshi, M. Swaminathan, Narayan L. Phadke and Yuvraj S. Gaundare

Genetics Department Central Research Station BAIF Urulikanchan, India

**Corresponding author*

Keywords

APL, BPL, Crossbreed, Upgraded

Article Info

Accepted:
12 April 2019
Available Online:
10 May 2019

A B S T R A C T

To study the knowledge of dairy animal owners in improved dairy husbandry practices a field survey in Bihar state was conducted during April-June'2016. Data were collected through personal interview from randomly selected 1550 dairy animal owners from randomly selected villages from Chhapra, Vaishali district of Bihar with the help of pre-tested structured schedule. Survey indicates that the 71.67 percentage of the livestock farmers belonged to middle age category range from 35-50 years, followed by 15.00 percent in young age category and 13.33% belonged to old age category. Female participants were 40.36 percentage while 45.57 percentage were male participants. The average size of family in the study was 8.74 persons with 4.75 male members and 4.0 female members. 65.4% of the respondents' family was formally educated followed 34.6% of the respondents' family were not formally educated. In the present study it was observed that 30.7% of the respondents had acquired education up to 10th and 19.8% of respondents had acquired education upto 12th class. 13.3% of respondents had acquired education upto graduate and post graduate level while 13% of respondents had acquired education upto 5th class. Survey data revealed that the highest respondents were from OBC 59.4% class followed by 29.8% General Caste. Percentage of schedule caste was 8.1% and percentage of schedule tribe was 2.7 %. Average size of land owned was 2.24 percentage. 71.0 percentage belong to Marginal (0.1-1 ha) land while 13.7 percentage belong to small (1.1-2 ha), 3.5 percentage belong to owners having above 2 ha land. Average number of animals owned were 1.99 while average number of cow owned were 1.75. Average number of buffaloes owned was 0.24. For distribution of cows and buffaloes by type of breed show highest proportion was of crossbreed cow 75.92 percentage followed by 20.46 percentage of Indigenous cow and 3.62 percentage of Non-descript cow. In case of buffaloes it shows 55.76 percentage of upgraded buffalo and 44.24 percentage of non-descript buffaloes. In milk market study about 38.7% of farmers sell their milk to private dairy, followed by cooperative dairy (33.0%) and open market (28.2%). Likewise the average quantity of milk sold per farmer per day to private dairy was 2.72 litres, 2.32 litres to cooperative dairy and 1.98 litres to open market. Around 62.9% of the farmers sell their milk within the village while the remaining 37.1% farmers sell milk outside the village.

Introduction

India is predominantly an agricultural country with about 70% of its population dependent on income from agriculture. Animal husbandry is an adjunct to crop agriculture and cattle is kept for milk production, motive power for various farm operations, village transport, irrigation, and production of manure. The animals are generally maintained on agricultural byproducts and crop residues. Animal rearing is done mostly by small and marginal farmers and landless labourers. Livestock rearing provides employment and supplementary income to the vast majority of rural households, the majority of whom are landless and marginal farmers. Thus knowledge on existing management practices may help to identify strength and weakness of the dairy sector which could be further useful for formulation of proper intervention policies. With this backdrop, present study was designed to document existing information on housing management practices followed by the dairy farmers in Bihar.

Materials and Methods

BAIF has accomplished all the envisaged activities during the Pilot phase by the end of May 2016. After the project completion, BAIF arranged to conduct an Impact Assessment Study to document the project outcome and the lessons learnt which would be useful for Research & Development as well as while taking future policy decisions for replication and up-scaling of similar programs. This task has been assigned to CMSR, New Delhi which undertook the Impact Assessment Study during April-June'2016. This will focus on the Project achievements. The present study was conducted in the Chhapra, Samastipur and Vaishali districts of Bihar. Face to face interviews were conducted with a total of 1550 farmers. The sample farmers were chosen from a list of farmers provided by BAIF. This study presents information on the socio-economic characteristics of farmers (through face to face interview), their animal management practices, willingness to be a part of federation and readiness to incur expenditure for availing artificial insemination. An attempt was also made to compute income from milking animals and benefits of crossbreeding and upgrading of cattle to assess the impact of project. The data collected have been analyzed and tables (1–9) have been prepared and inferences drawn.

Results and Discussion

The survey was conducted in Bihar from 1550 farmers. The analysis of the conducted study is as follow

Age

The age of respondents is an important factor, which determines the maturity of an individual and has a bearing on thinking, experience, decision making and exposure of a person. The data in the (Table 1) indicates that the highest percentage of the livestock farmers (71.67%) belonged to middle age category, i.e. 35-50 years, followed by 15.00 percent in young age category and rest (13.33%) belonged to old age category. It was observed that minimum age was 24 years and highest age was 73 years.

Balakrishna (1997), Mary (2001), Sabapara *et al.,* (2014) also found that majority of respondents were in middle age group. It could be observed from (Table 1) that maximum number of owners of small scale livestock farmer lies in age group 35-50 years. About 87% owners of small-scale livestock farmer lie in age group 18-50 years. Therefore, it may be said that small scale livestock farms are mainly run by young to middle age people. It can be concluded from

the (Table 1) that middle age category prefer livestock farming for maintaining their livelihood.

Gender

The results on the gender of the farmers involved in dairy farming activities are presented in Table 2. From the table it is observed that majority of the dairy farmers, are women (40.36 per cent) followed by men (45.57 per cent). Similar findings were recorded in communes and municipalities with minor numerical variations. This finding is in agreement with Prakash *et al.,* (2011), Hai *et al.,* (2011) and Anika *et al.,* (2015) who found that rural women played an important and substantial role in dairy farming.

Average size of household

The average size of family in the sample was 8.74 persons with 4.75 male members and 4.0 female members. All the households had more male members as compared to female members. This is also in tune with the demographic pattern of the country

Family size

The family size of the farmers in the study area that are shown in (Table 2) indicated that more than half (55.83%) were of medium family size ranging from 6 to 8 members, followed by 23.33 percent in high and 20.84 percent in small family size category. This is lower than the observation of Rao (1986).

Family size influences various activities in term of family labour availability, annual income of family etc. It was also observed that in majority the livestock are maintained by all the family members collectively. Similar findings were revealed by Kumar (2001), Gupta (2011).

Education status

The data shown in (Table 3) revealed that 65.4% of the respondents' family was formally educated followed 34.6% of the respondents' family were not formally educated. In the present study The (Table 3) reveals that 30.7% of the respondents had acquired education up to 10th and 19.8% of respondents had acquired education upto 12th class. 13.3% of respondents had acquired education upto graduate and post graduate level while 13% of respondents had acquired education upto 5th class. In similar studies Garai (2007), Sahoo (2011), Verma (2012) has also reported low education status among the tribal people. Low level of education status may be on account of less schools and distant location of the schools in the locality and frequent destructions of school building due to insurgency. Vivek *et al.,* (2015) revealed that 45.31 per cent of cattle owners were illiterate and 54.69 per cent were literate in Western Rajasthan.

Caste

Analysis of the data revealed that the highest respondent were from OBC (59.4%) class followed by 29.8% General Caste. Percentage of schedule caste was 8.1% and percentage of schedule tribe was 2.7 %. Parashari and Khan (2015) observed that OBCs have highest share of 41.33% followed by high castes with a proportion of 32.66% and SCs have least proportion of 27.33% in total people involved in dairy farming. Sabapara *et al.,* (2014) observed that the majority of the respondents (40%) were from OBC category followed by ST (39.33%), General category (13.67%) and SC (7%) in dairy husbandry practices. Gangasagare and Karanjkar (2009) reported that about 59% of the dairy farmers belong to General category, 25% were OBCs and only 8% each of SC and ST in the milk pocket

areas of eight districts of Marathwada region of Maharashtra.

Land holding

Majority of the dairy farmers were owing land (88.2 percent) while 11.8 percent were not having own land. Overall average size of land owned was 2.24 percentage. 71.0 percentage belong to Marginal (0.1-1 ha) land while 13.7 percentage belong to small (1.1-2 ha), 3.5 percentage belong to owners having above 2 ha land. The results were almost similar to the findings of Vinothini (2010) who found that majority (60 percent) of the dairy farmers were landless and average land holding was 0.86 acre in Puducherry. These finding are in accordance with the finding of Gupta (2011).

Herd size

Average number of animals owned were 1.99 while average number of cow owned were 1.75. Average number of buffaloes owned was 0.24. The results were almost similar to the findings of Ramkumar *et al.*, (2001), Tamizhkumaran and Rao (2012) and Vivek *et al.*, (2015) who found that dairy farmers had small herd size of cattle. The results were contradicting with the results of Senthilkumar *et al.*, (2005) who found that medium herd size was more in Chennai.

Total cattle 2708 and 373 buffaloes were surveyed for distribution of cows and buffaloes by type of breed show highest proportion was of crossbreed cow 75.92 percentage, 20.46 percentage of Indigenous cow and 3.62 percentage of Non-descript cow. In case of buffaloes upgraded buffalo 55.76 percentage, 44.24 percentage of non-descript buffaloes.

Marketing of milk

As regards to the number of milking animals number of milking animals owned by farmers in Bihar was 1375. Average number of milking animals owned by the sample household was 1.19 in Bihar.

Selling point for milk

This table pertains to three aspects; place where the farmers sell their milk, location (within village/outside village) and distance travelled by them for selling milk. Total number of farmers who sell their milk was 949.

Table.1 Distribution of farmers by age group and gender (%)

Age(in years)	Gender		Bihar
	Male	Female	
Up to 20	2.2	4.3	0.6
21 - 30	10.8	14.8	7.4
31 - 40	22.6	34.8	19.3
41 - 50	26.5	26.2	27.2
51 - 60	19.9	14.2	21.7
> 60	18.1	5.7	23.9
Average age	45.57	40.36	48.16
Total number of farmers	2649	351	1550

Table.2 Distribution of farmers by average number of male and female members per household (%)

Gender	Bihar
Male	4.75
Female	4.00
Average family size	8.74

Table.3 Distribution of male and female farmers by educational status (%)

Farmers by their education level	Number
Farmers who were not formally educated (n)	536 (34.6%)
Male	91.2
Female	8.8
Farmers who had formal education (n)	1014 (65.4)
-5th Pass	13.0
-8th Pass	20.4
-10th Pass	30.7
-12th Pass	19.8
-Graduates/Post Graduates	13.3
Total number of farmers	1550

Table.4 Distribution of farmers by social category (%)

Caste	Number
Scheduled caste	8.1
Scheduled tribe	2.7
Other backward class	59.4
General	29.8
Total number of farmers	1550

Table.5 Distribution of farmers by land holding status (%)

Land ownership	Bihar
Farmers not owning land (n)	227
(%)	11.8
Farmers owning land (n)	1323
(%)	88.2
Size of land owned	
Marginal (0.1-1ha)	71.0
Small (1.1- 2 ha)	13.7
Above 2 Ha	3.5
Average size of land owned	2.24
Total no. of farmers	1550

Table.6 Average number of female animals owned by farmers in the sample states

Breed of cattle	**Bihar**
Total number of female animals owned by farmers	3081
Average number of animals owned	1.99
Average number of cows owned	1.75
Average number of buffaloes owned	0.24

Table.7 Distribution of cows and buffaloes by type of breed

Breed of cattle	**Bihar**	
	Cattle owned (n)	%
ND Cow	98	3.62
Crossbred Cow	2056	75.92
Indigenous Cow	554	20.46
Total number of Cows	2708	100.00
ND Buffalo	165	44.24
Upgraded Buffalo	208	55.76
Total number of Buffaloes	373	100.00

Table.8 Distribution of farmers by place of sale, location and distance travelled

Place for sale of milk	**Bihar**	
	% of farmers	Ave. quant sold (per farmer per day).
Open Market (in litres)	28.2	1.98
Cooperative Dairy (in litres)	33.0	2.32
Private Dairy (in litres)	38.7	2.72
Average quantity of milk sold		7.02
Farmers who sell milk (n)	949	
Location of the sale point		
Within the village (%)	62.9	
Outside the village (%)	37.1	
If outside the village distance travelled (n)	352	
Less than 3 Km (%)	91.5	
More than 3 Km (%)	8.5	

Table.9 Comparison of feed and fodder consumption in cattle and buffalo

Particulars	Cattle	Buffalo
Concentrate is fed per day (in Kg)	3.86	4.51
Fed no. of days in a year	319	244
Dry Fodder is fed per day (in Kg)	7.43	9.83
Green fodder fed per day (in Kg)	10.84	237
Mineral mixture fed per day (in Kg)	0.04	0.04
Total expenditure incurred per animal per annum (in Rs.)	27377	26181
Total expenditure incurred on health per animal per annum (in Rs.)	2608	2851

Place of sale

It was stated that maximum proportion (38.7%) of farmers sell their milk to private dairy, followed by cooperative dairy (33.0%) and open market (28.2%). Likewisethe average quantity of milk sold per farmer per day to private dairy was 2.72 litres, 2.32 litres to cooperative dairy and 1.98 litres to open market.

Location

Around 62.9% of the farmers sell their milk within the village while the remaining 37.1% farmers sell milk outside the village.

Distance travelled

Majority of the farmers (37.1%) who sell their milk outside the village, had to travel a distance of less than 3 km and the remaining 15.9% had to cover a distance of more than 3 km to sell their milk. In Bihar, only 8% farmers had to travel more than 3 km to sell milk.

Insurance of livestock

It was noticed that although most of the farmers had heard of animal insurance, it was not a very popular practice among them as the data revealed that in the more than 99 percent of the farmers did not insure any of their animals. In Bihar only 0.34 percent farmers do insurance.

Artificial insemination needed for conception

The average number of AIs done for the crossbred cows was higher (2.04 AIs) than the AIs done for indigenous cows (1.94 AIs). The average number of AIs done among the upgraded buffaloes was 1.71 AIs.

Price of pregnant cattle

The average price at which a Crossbred cows pregnant cow was sold was Rs. 24,090. The overall average price at which a Indigenous pregnant cow was sold was Rs.14, 986. The average price at which a pregnant buffalo was sold was for Rs. 32938.

It can be concluded that majority of the respondents were middle and above aged and literate up-to secondary standard of education with medium family size. Majority of the respondents possessed land with small and medium herd size. A large number of dairy farmers were found belonging to medium category for their experience in dairying while, majority of dairy farmers were having medium family size and Dairy farmers were having medium land holding (2-4 hectare) and milk production. From demographic profile, housing and feeding systems study, it

can be concluded that dairy farming is still an occupation of poor community. For any dairy improvement programme, male and female members should be engaged in training programme. Training should be offered in such a way that illiterate people can follow this. Awareness programme should be strengthened in light of providing housing to the dairy which is essential for scientific dairy production management; dairy rearing away from human dwelling as they may transmit zoonotic diseases; and improving the condition of the dairy houses including floor and roof.

Acknowledgements

The authors are thankful to Management team of BAIF Development Research Foundation and all stakeholders in study area those who participated and cooperated during study

References

Anika, M., Gautam and Kamaldeep. (2015). Relative contribution of rural women to animal husbandry activities in Haryana. Asian Journal of Animal Sciences. 10(1): 43–48.

Balakrishnan B. 1997. Evaluation of dairy production practices in selected farming system of Karnataka state. Ph. D. Thesis, NDRI (Deemed University), Karnal, Haryana.

Garai S. 2007. Dairy farming among Santhal tribe women of Bardhman district West Bengal. M. Sc. Thesis, National Dairy Research Institute (Deemed University), Karnal, Haryana

Gangasagare, P. T. and Karanjkar, L. M. 2009. Status of milk production and economic profile of dairy farmers in the Marathwada region of Maharashtra. Vet. World, 2: 317-320

Gupta P. 2011. Status and prospects of smallholder milk production system in Easter Haryana. M. V. Sc. Thesis, National Dairy Research Institute (Deemed University), Karnal, Haryana.

Hai, A., Akand, A. H., Shanaz, S. and Bulbul, K. H. (2011). Contribution of farm women towards dairy enterprise in Ganderbal district of Kashmir valley. Journal of Dairying, Foods & Home sciences, 30 (2): 140 – 146.

Kumar S. 2001. A study on delivery system of the animal husbandry inputs in Banka district (Bihar). M. Sc. Thesis, National Dairy Research Institute (Deemed University), Karnal, Haryana.

Prakash, K. R., Nikam, T. R., Sariput, L., Vajreshwari and Amit, H. (2011). Participation of rural women in dairy farming in Karnataka. Indian Research Journal of Extension Education. 11 (2): 56- 61

Ramkumar, S., Chris Garforth., Rao, S. V. N., Kevin Waldie. (2001). Landless livestock farming – problems and prospects, In Proceedings of workshop held at RAGACOVAS, Puducherry. 31 -35.

Sabapara G P, Fulsoundar A B S and Kharadi V B. 2014. Personal, socio-economic characteristics of dairy animal owners and their relationship with knowledge of dairy husbandry practices in Surat district of Gujarat. Journal of Animal Research 4(2): 175-186.

Sahoo A, Meena H R, Ram H and Rasool T J. 2011. Livestock animal husbandry scenario at high altitude Kumanen Himalaya. Indian Journal of Animal Sciences 78(8): 882-886.

Senthilkumar, T., Sudeepkumar, N. K. and Subramanian. (2005). Profile of urban dairy farmers utilising mobile artificial insemination services in Tamil Nadu. Journal of Extension Education. 16(1&2): 3745-3748.

Tamizhkumaran, J. and Rao, S. V. N. (2012).Why cultivation of azolla as

cattle feed not sustainable? Indian Journal of Dairy Sciences. 65(4): 348-353.

Verma H C. 2012. Productive and reproductive performances of dairy animals in Faizabad district of Uttar Pradesh. M. V. Sc. Thesis, National Dairy Research Institute (Deemed University), Karnal, Haryana.

Vivek, M., Vijay, Jay, S, S., Mohan, L, Y., Sanjay, K and Saroj, C. (2015). Study about socio-economic status and calf rearing management practices adopted by cattle keepers of Western Rajasthan. Indian Journal of Agriculture Research. 49(2): 189-192.

Vinothini, M. (2010). A study on sustainability of dairy farming among the members of women dairy cooperative societies in Puducherry. M.V.Sc thesis, RIVER, Puducherry.

How to cite this article:

Vinod V. Potdar, Jayant R. Khadse, Sachin A. Joshi, M. Swaminathan, Narayan L. Phadke and Yuvraj S. Gaundare. 2019. Socioeconomic Status and Livestock Study of Bihar, India. *Int.J.Curr.Microbiol.App.Sci.* 8(05): 1240-1248. doi: https://doi.org/10.20546/ijcmas.2019.805.141