



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(11): 2292-2296
© 2023 TPI
www.thepharmajournal.com
Received: 23-08-2023
Accepted: 30-10-2023

Chavan PT
Post Graduate Student,
College of Agriculture, Pune,
Maharashtra, India

Mane SH
Professor, College of Agriculture,
Pune, Maharashtra, India

Kankhare DH
Assistant Professor, College of
Agriculture, Pune, Maharashtra,
India

Suryawanshi PD
Assistant Professor, College of
Agriculture, Pune, Maharashtra,
India

Deokate TB
Assistant Professor, College of
Agriculture, Pune, Maharashtra,
India

Corresponding Author:
Chavan PT
Post Graduate Student,
College of Agriculture, Pune,
Maharashtra, India

Socio-economic status and constraints faced by indigenous cattle owners under field conditions in western Maharashtra

Chavan PT, Mane SH, Kankhare DH, Suryawanshi PD and Deokate TB

Abstract

The data for present investigation "Socio-economic Status and Constraints Faced by Indigenous Cattle Owner Under Field Conditions in Western Maharashtra" was collected from the different cattle owners from the Kolhapur, Sangli, Satara, Pune and Solapur district of Maharashtra who was rearing indigenous cattle mainly Sahiwal, Gir, Tharparkar, Red Sindhi and Rathi breeds which are mainly famous as milch purpose breeds during the year 2021-22. The 30 cattle owners from each district i.e., total 150 cattle owners were selected randomly. The study observed that majority of 52.00 percent cattle owners had medium size family, 30.67 percent were had large size family, 58.00 percent cattle owners belonged from the middle age group. Among all the cattle owners, 32.00 percent had higher secondary education. About 32 percent cattle owners had small farmers they had 1.1 to 2 ha. of land holding. Annual income of cattle owners was low, medium and high 18.67 percent, 52.67 percent and 28.66 percent respectively. Majority of the cattle owners had Gir cattle (944) followed by Sahiwal cattle (667) in their herd. Majority of the cattle owners had 11-20 cattle. Social participation of cattle owners was highest i.e. 78.00 percent in Dairy co-operative and lowest i.e. 48.00 percent in Gram Panchayat. Majority of cattle owner's main occupation was Dairy + Agriculture i.e. of 44.00 percent. About 32.00 percent cattle owners had more than 11-15 years of experience in dairying.

Majority (94.00%) of cattle owners faced problem of lack of knowledge of processing of milk and other products from cow dung and urine. About 84.67 percent cattle owners had lack of knowledge of scientific management practices of cattle and faced non availability of technical person problem. The 72.67 percent fetch low market prices, 65.33 percent cattle owners faced problem of high cost of improved seed of fodder. The 64.67 percent cattle owners faced difficulties in transportation. About 64.00 percent cattle owners faced reproduction problem in their cattle. About 52.00 percent, 48.67 percent and 44.67 percent cattle owners faced problem of non-availability of grazing land, non-availability of land for loose housing and lack of knowledge of processing and preservation of fodder, respectively.

Keywords: Socio-economic status, constraints, cattle owners, management practices, indigenous, frequency, percentage.

1. Introduction

In the national economy, livestock sector plays very important role. Especially in rural area animal husbandry is important livelihood sector. In the animal husbandry sector indigenous cattle has been a part of Indian lifestyle since ages unknown. It has helped mankind in farm to plough, on roads to carry loads, at home with milk, with urine and cow dung for several uses like manure, biogas, lighted lamps, statues in day to day life. Indigenous cattle have great importance in Indian religious activities. In India these indigenous cattle considered the incarnation of God.

According to the 20th livestock census (2019) ^[1] total livestock population is 535.78 million in the country showing an increase 4.60% over livestock census 2012. The exotic/cross breed and indigenous/nondescript cattle population in the country are 50.42 million and 142.11 million, respectively. The indigenous nondescript female cattle population has increased by 10% in 2019 as compared to previous census. While rearing cattle socio economic status play an important role like family size to overcome labor problem, formal education of cattle owners influences his attitude and enhance his ability and skills. Education is most important to adopt new technologies and techniques to improve dairy business profitable. Annual income is important for adaptation new technology also other improved dairy management practices. Social participation is helpful to get more updated knowledge from the society, land holdings to met fodder requirements, when occupations are inter related it will be more helpful to get

more profit in less time with less effort, etc. Our indigenous breeds like Sahiwal, Gir, Red Sindhi, Tharparkar and Rathi are known as famous milch purpose breeds. While rearing these breeds cattle owners face so many problems it is very important to know the problems faced by cattle owners to increase production performance of cattle and at the same time it will contribute a lot to the economic growth of the cattle owners and national economy also.

2. Material and Method

The data for present investigation "socio economic status and constraints faced by indigenous cattle owner under field conditions in western Maharashtra" was collected from the different cattle owners from the Kolhapur, Sangli, Satara, Pune and Solapur district of Maharashtra who was rearing indigenous cattle mainly Sahiwal, Gir, Tharparkar, Red Sindhi and Rathi breeds which are mainly famous as milch purpose breeds during the year 2021-22.

3. Method of sampling: A comprehensive questionnaire was prepared to collect data from the individual cattle owner through personal interview method.

1.1.1

3.1 Size and selection of cattle owners: The 30 cattle owners from each district i.e., total 150 cattle owners were selected randomly.

3.2 Selection and formation of groups: All 150 cattle owners were selected and grouped in 4 groups according to herd size in the herd size there was all groups of cattle were included i.e., calf, heifers, cow and bull also. In group I- less than 5 cattle, in group II- 5-10 cattle, In group III- 10-20 cattle and in group IV -more than 20 cattle were there.

3.3 Statistical analysis: The collected data were classified, and simple tabular analysis followed for analyzing data, where the comparisons was redundant there only frequency and percentage were calculated [13]

4. Results and Discussion

4.1 Socio economic status of cattle owner

4.1.1 Family size

Total members present in the family of cattle owners were considered. The distribution of cattle owners as small, medium and large presented in the Table 1

Table 1 Distribution of cattle owners according to family size

N=150					
Sr. No.	Groups	Family size	Frequency	Percent	
1.	Small	Less than 4	26	17.33	
2.	Medium	5-7	78	52.00	
3.	Large	>8	46	30.67	

From the present investigations it was observed that 52.00 percent cattle owners had

medium size family in which total family members were 5-7, 30.67 percent cattle owner's family were large size family in which total members were more than 8 and 17.33 percent cattle owners' family were with small family in which there was less than 4 members. Majority of cattle owners had medium size family. It was helpful to the cattle owners to reduce the cost of operation because there was enough man power in their own family to perform daily operations. Similar results were found in [8, 19, 20]

4.1.2 Age

The chronological age of cattle owners at the time of investigation was recorded. The distribution of cattle owners as young, middle and old age group presented in Table 2

Table 2: Distribution of cattle owners according to age

N=150				
Sr. No.	Age group	Age	Frequency	Percent
1.	Young	Below 30	36	24.00
2.	Middle	Between 31-50	87	58.00
3.	Old age	Above 51	27	18.00

It indicates that, the majority of 58.00 percent cattle owners belonged from the middle age group i.e., between 31-50 years, 24.00 percent cattle owners from the young age group i.e., below 30 years while remaining only 18.00 percent from the old age group i.e., above 51 years. Thus, it can be revealed that majority of the middle age group was engaged in Indigenous cattle rearing, while only 18.00 percent were from old age group. Similar results were reported by [3, 6, 14].

4.1.3 Education

Formal education of cattle owners influences his attitude and enhances his ability and skills. Education is most important to adopt new technologies and techniques to improve dairy business profitable. It is important from the point of view problem solving ability of individual. The distribution of cattle owners as per level of education presented in Table 3

Table 3: Distribution of cattle owners according to their level of education

N=150				
Sr. No.	Education	Class	Frequency	Percent
1.	Illiterate	No education	13	08.67
2.	Primary	Up to 4th standard	15	10.00
3.	Secondary	5 th standard to 10 th standard	29	19.33
4.	Higher secondary	11th and 12th standard	48	32.00
5.	Graduation	Degree holders	34	22.67
6.	Post-Graduation	Master degree	11	07.33

It was concluded that 32.00 percent cattle owners had higher secondary i.e., 11th and 12th standard education, 22.67 percent cattle owners were graduate i.e., degree holders. 19.33 percent cattle owners had secondary education i.e., 5th standard to 10th standard. The 10.00 percent cattle owners had primary education i.e., up to 4th standard, 08.67 percent cattle owners were illiterate and only 07.33 percent cattle owners were post graduate i.e., they had master degree. Thus, it can be revealed that majority of cattle owners had higher secondary education this will be helpful for adaptation of new technology easier than that of illiterate cattle owners. The results were in accordance with [11, 17]

4.1.4 Land Holding

Land holding is most important from the point of view of growing agriculture crops as well as to fulfil the need of fodder for the cattle. We can use by-products from the other crops such as paddy, wheat straw, etc. which will helpful to meet requirements of some amount nutrients and many times used as a fodder. Purchasing such by products and fodder from others field is not economical hence own land holding is

must to get more income and dairy business profitable. The distribution of the cattle owners according to availability of total land and it was classified under 5 groups are presented in Table 4.

Table 4: Distribution of cattle owners as per total land holding

N=150				
Sr. No.	Class	Size of land holding	Frequency	Percent
1.	No land holding	Landless	09	06.00
2.	Marginal	Up to 1 ha.	39	26.00
3.	Small	1.1 ha to 2 ha.	48	32.00
4.	Medium	2.1 ha to 4 ha.	42	28.00
5.	Large	Above 4 ha.	12	08.00

From the above table it was concluded that 32.00 percent cattle owners had small farmers they had 1.1 ha. to 2 ha. of land holding. The 28.00 percent cattle owners were medium farmer they had total land holding 2.1. ha. to 4 ha., 26.00 percent cattle owners were marginal farmers they had total land holding up to 1 ha. 08.00 percent cattle owners were large farmers they had above 4 ha. total land holding while remaining only 06.00 percent cattle owners were landless farmers, they don't have their own land holding. From the observation it is concluded that majority of cattle owners were small farmers then medium and then marginal farmers engaged in dairy farming. These results were in general conformity with^[5, 10, 16]

4.1.5 Herd Size

Herd size is depending on the availability of land, man power, availability of fodder, water, etc. The distribution of cattle owners according to their herd size and they were classified in 4 groups and presented in Table 5.

Table 5: Distribution of cattle owners as per their herd size

N=150				
Sr. No.	Groups	Herd size	Frequency	Percent
1.	I	Less than 5	13	08.67
2.	II	6-10	47	31.33
3.	III	11-20	59	39.33
4.	IV	More than 20	31	20.67

From the above table it was indicated that majority of 39.33 percent cattle owners classified in group III in which number of cattle were 11-20, 31.33 percent cattle owners classified in group II in which number of cattle were 6-10, 20.67 percent cattle owners were classified under group IV in which they had more than 20 cattle while remaining only 08.67 percent cattle owners were classified under group I in which they had less than 5 cattle. The results are not accordance with^[9, 17, 21]

4.1.6 Annual Income

Annual income is important for adaptation new technology also other improved dairy management practices. The distribution of cattle owners according to their total annual income and classified in Table 6

Table 6: Distribution of cattle owners as per total annual income

N=150				
Sr. No.	Class	Level of Income	Frequency	Percent
1.	Low	Up to Rs. 75000	28	18.67
2.	Medium	75000 to 150000	43	28.66
3.	High	Above 150000	79	52.67

From the present investigation it was concluded that 52.67 percent cattle owners were from high class whose annual income were between above 150000, 28.66 percent cattle owners were from medium class whose annual income were 75000 to 150000 and only 18.67 percent cattle owners were in low class whose annual income Up to Rs. 75000. This was the total annual income from all sources of income. This revealed that majority of cattle owners had high level of income total annual income i.e., 75000 to 150000 from the all sources. The present findings were not supported by^[2, 20]

4.1.7 Social Participation

Social participation is helpful to get more updated knowledge from the society. Active social participation is most important for dairy business as well as any kind of business. Study indicated that social participation of cattle owners in different organizations and presented in Table 7

Table 7: Distribution of cattle owners as per social participation

N=150			
Sr. No.	Social Participation	Frequency	Percent
1.	Co-operative Society	98	65.33
2.	Dairy co-operative	117	78.00
3.	Gram Panchayat	72	48.00
4.	Yuvak Group	76	50.67

From the present investigation it was concluded that 65.33 percent cattle owners were participate in co-operative society, 78.00 percent cattle owners were actively participated in Dairy co-operative, 50.67 percent cattle owners were actively participated in Yuvak Group while 48.00 percent cattle owners were actively participated in Gram Panchayat of village. From the study it was revealed that majority of cattle owners were actively participate in either one of the organisations. It will helpful them for getting more updated knowledge of the society. The above findings were in accordance with^[8, 12]

4.1.8 Occupation

When occupations are inter related it will be more helpful to get more profit in less time with less effort. This taken into consideration cattle owners classified according to occupation as a source of their income. According to occupation they were classified under following categories and presented in Table 8.

Table 8: Distribution of cattle owners as per their occupation

N=150			
Sr. No.	Occupation	Frequency	Percent
1.	Dairy	19	12.67
2.	Dairy + Services	11	07.33
3.	Dairy + Business	15	10.00
4.	Dairy + Agriculture	66	44.00
5.	Dairy + Poultry+ Agriculture	03	02.00
6.	Dairy + Agriculture + Service	13	08.67
7.	Dairy + Agriculture + Business	21	14.00
8.	Dairy + Poultry	02	01.33

From the above table it was indicated that majority of cattle owner's main occupation was Dairy + Agriculture i.e., of 44.00 percent cattle owners. Dairy + Agriculture + Business this occupation was of 14.00 percent cattle owners. 12.67 percent cattle owner's dairy were main occupation. Dairy + Business this occupation was of 10.00 percent cattle owners.

Dairy + Agriculture + Service this occupation was of 08.67 percent cattle owners. About 07.33 percent cattle owner's main occupation were Dairy + Services. Dairy + Poultry+ Agriculture this occupation was of 02.00 percent cattle owners while remaining only 01.33 percent cattle owner's main occupation was Dairy + Poultry. Majority of cattle owner's occupation was Dairy + Agriculture because by-products from the agriculture were used in dairy and dung and urine used as a fertilizer in the agriculture field. The above findings were supported by [17, 20].

4.1.9 Experience in dairying

Experience is one of the most important in all situation to overcome or to check the further heavy loss due to some causes. The distribution of cattle owners as per the experience in dairying presented in Table 9.

Table 9: Classification of cattle owners according to their experience in dairying.

N=150			
Sr. No.	Experience (in years)	Frequency	Percent
1.	Less than 5	29	19.33
2.	6-10	37	24.67
3.	11-15	48	32.00
4.	More 16	36	24.00

From the present investigation it is observed that majority of cattle owners i.e., 32.00 percent had experience in dairying between 11-15 years, 24.67 percent cattle owners had experience in dairying between 6-10 years, 24.00 percent cattle owners had experience in dairying more than 16 years while remaining 19.33 percent cattle owners had experience in dairying less than 5 years. Most of the cattle owners had experience in dairying this will reduce the cost of veterinary doctors or veterinary medicine. Also, they used their experience for selection of proper and good quality cattle or other products which are necessary for the dairy farming. The findings are quite similar with [8, 15, 19]

4.2 Constrains faced by the cattle owners in adopting scientific feeding and housing management practices.

Constrains faced by indigenous cattle owners while rearing cattle were presented in following Table 10.

Table 10: Constrains faced by the cattle owners in adopting scientific feeding and housing management practices.

Sr. No.	Constrains faced by the cattle owners	Frequency	Percent
1.	Lack of knowledge of processing of milk and other products from cow dung and urine	141	94.00
2.	Lack of knowledge of scientific management practices of cattle and non-availability of technical person	127	84.67
3.	Low market prices	109	72.67
4.	High cost of improved seed of fodder	98	65.33
5.	Difficulties in transport facilities	97	64.67
6.	Reproduction problems	96	64.00
7.	Non-availability of grazing land	78	52.00
8.	Non-availability of land for loose housing	73	48.67
9.	Lack of knowledge of processing and preservation of fodder	67	44.67

From the present investigation it was observed that about 94.00 percent cattle owners did not have much knowledge about processing of milk and they did not have awareness

about market value for Indigenous cattle originated products. About 84.67 percent cattle owners had lack of knowledge of scientific management of cattle and faced problem of non-availability of technical person which can lead in lower down production performance and as well as scientific methods for management. Similar results were found in [18]

Most of indigenous cattle owners were from rural area and in rural area they fetch low price for milk as compare to urban area hence 72.67 percent cattle owners faced problem of low market prices for their products. The 65.33 percent cattle owners faced problem of non-availability of improved seed of fodder. Most of the indigenous cattle owners i.e., 64.67 percent were residents of small villages some of that villages were away from the cities hence transportation was very difficult for them. About 64.00 percent cattle owners faced reproduction problems in their cattle. The present results are supported by [4].

About 52.00 percent cattle owners faced problem of non-availability of grazing land. By grazing animal get variety of wild feed and get enough body exercise which can direct impact on production performance. Results were in line with [7]. Loose housing system is the best housing system in dairy farming but lack of land or space availability 48.67 percent cattle owners faced problem of loose housing system. And 44.67 percent cattle owners faced problem of lack of knowledge about processing and preservation of fodder.

5. Conclusion

Majority of cattle owners were from the middle age, having higher secondary education, small famers with medium annual income and dairy + agriculture was the main occupation.

Most of the cattle owners facing numbers of constrains while adopting scientific feeding and housing management practices in that majority of cattle owners facing problem of lack of knowledge of processing of milk and other products from cow dung and urine from they can earned more profit, costly veterinary medicine, non-availability of grazing land, lack of knowledge about processing of fodder, non-availability of technical person and high cost of fodder seed, low market price for milk in rural area

6. References

1. Anonymous. Livestock census report; c2019.
2. Dabhi AM, Durgga Rani V, Ghasura RS. Personal, socio-economic and psychological characteristics of crossbred cattle owners of Surat district in south Gujarat. Gujarat journal of Extension Education Special issue in National seminar; c2018. p. 177-182.
3. Dhaka BL, Chayal P, Poonia MK. Identification of constraint limiting the productivity of livestock and strategies for its improvement in Bundi district of Rajasthan. Indian Journal of Animal Sciences. 2011;81(1): 94-96.
4. Ishfaq A, Ganai AM, Ahmed HA, Beigh SA, Khan HM, Ahmad SB. Rearing practices, production performance and reproductive problems of cattle of budgam district in kashmir valley. J Anim. Health Prod. 2017;5(2):68-73.
5. Jadhav SJ, Rani DV, Pansuriya DV, Chaudhary JH, Chauhan VD, Pandya SS. Feeding practices of dairy animals in Periurban areas of Surat district (Gujrat). International Journal Advanced Multidisciplinary Research. 2014;1(3):1-5.
6. Jeelani R, Khandi SA, Beig MY, Kumar P, Bhadwal MS.

- Relationship of socio-economic profile Gujjars (Pastoralists) with knowledge and adoption of improved animal husbandry practices. *Indian Journal of Extension Education*. 2014;50(3 and 4):36-43.
7. Kavathalkar NG, Patil SR, Kankhare DH, Desale RJ, Mane SH. Constraints in adoption of scientific recommendations in feeding of dairy animals in Nagpur district. *Indian Dairyman*. 2007;59(12):51-55.
 8. Kumar KA, Kale S, Barikar U, Sreenivas BV. Socio-economic profile analysis of dairy farmers of Yadgir district of Kalyana Karnataka region. *Journal of Pharmacognosy and Phytochemistry*. 2020;9(4S):350-353.
 9. Mahala V, Choudhary VK, Goswami SC, Jhirwal AK, Gadhwal RS, Sharan JS, *et al.* Feeding management practices adopted by cattle keepers of western Rajasthan. *Veterinary Practitioner*. 2015;16(2):324-326.
 10. Nagrale SG. Studies on feeding and management practices adopted in livestock fodder camps during drought in Kaij tahsil of Beed district. M.Sc. (Agri.) thesis submitted to VNMKV, Parbhani; c2016.
 11. Naveen KR, Veeranna KC, Gopala GT, Harisha MT, Thirumalesh T, Shettar VB, *et al.* Socio Economic Profile of Farmers Rearing Gir Cattle in karnataka, India. *International Journal of Current Microbiology and Applied Sciences*. 2019;8(10):877-882.
 12. Panchbhai GJ, Siddiqui MF, Sawant MN, Verma AP, Parameswaranaik J. Correlation analysis of socio-demographic profile of dairy farmers with knowledge and adoption of animal husbandry practices. *International Journal of Current Microbiology and Applied Sciences*. 2017;6(3):1918-1925.
 13. Panse VG, Sukhatme PV. *Statistical Methods for Agriculture Workers*. ICAR, New Delhi, India; c1967.
 14. Potdar V, Khadse JR, Joshi SA, Swaminathan M, Phadke NL, Gaundare YS. Socio-economic status and livestock study of Bihar. India. *International Journal of Current Microbiology and Applied Sciences*. 2019;8(5):1240-1248.
 15. Raina V, Bhushan B, Bakshi P, Khajuria S. Entrepreneurial behaviour of dairy farmers. *Journal of Animal Research*. 2016;6(5):1-7.
 16. Raval RK, Chandwat MS. Extent knowledge of improved animal husbandry practices and socio-economical characteristics of dairy farmers of district Kheda, Gujrat. *International Journal of Farm Science*. 2011;1(2):129-137.
 17. Sabapara GP, Fulsoundar AB, Kharadi VB. Profile of dairy farmers and relationship with adoption of improved dairy husbandry practices in southern Gujarat, India. *Livestock Research International*. 2016;4(1):36-40.
 18. Sarker D, Ghosh BK. Constraints of milk production: A study on cooperative and non-cooperative dairy farms in West Bengal. *Agricultural Economics Research Review*. 2010;23(347-2016-16933):303-314.
 19. Savale S, Senthilkumar R, Sunanda C. Socio economic profile of Ksheera Sagaram beneficiaries of Wayanad district. *J Vet. Anim. Sci*. 2018;49(1):48-52.
 20. Singh AK, Singh AK, Maji S. A study on socio-economic profile of the dairy farmers in Central Plain Zone of Uttar Pradesh. *International Journal of Current Microbiology and Applied Sciences*. 2021;10(01):988-995.
 21. Viswkarma R, Singh R, Kushram P, Kumar S. Existing status of buffalo husbandry practices in Jabalpur. *The Pharma Innovation Journal*. 2018;7(2):08-11.