



INTERNATIONAL JOURNAL OF TROPICAL AGRICULTURE

ISSN : 0254-8755

available at <http://www.serialsjournals.com>

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Volume 37 • Number 2 • 2019

Socio-economic Profile of Farmers Rearing Gaolao Cattle in Wardha District of Maharashtra

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Abstract: The study was conducted in Wardha district of Maharashtra state during 2015-16 to assess the socioeconomic profile of farmers rearing Gaolao cattle. Gaolao cattle are very hardy animals and are mainly used for milking and agricultural works. The information on socio economic profile of the randomly selected respondents were collected through structured interview. The results of study revealed that majority of farmer have nuclear family (68.18 percent) and owning 64.48 percent cattle. The majority households were having small land holding (51.05 percent) and owning 52.82 percent cattle. The main source of income for majority of farmers (52.10 percent) was dairy farming. The herd size ranged from 1 to 33 cattle. The cattle management practices indicated that majority of the farmers (78.79 percent) provided kuccha type of roof shed, 90.12 percent farmers follow grazing practices. The 56.30 percent farmer fallow natural breeding services and most of the farmers (91.17 percent) adopted deworming and vaccination of their animals.

Keywords: Socio-economic profile, Gaolao, cattle management practices, Wardha district

INTRODUCTION

Animal husbandry sector play pivotal role in Indian economy. It directly or indirectly provides employment to about 20.5 million people. It has contributed 16 percent of income of small farm households against an average of 14 percent of all rural households. Livelihood of as much as 70

percent of rural population depends on livestock and providing employment to 8.8 percent population. Livestock sector contributes about 25.6 percent to the agricultural GDP and 4.11 percent to national GDP of India (Livestock census 2012). Though India possess the richest animal wealth in the world, the animal productivity is less.

Out of 43 recognized breeds of cattle in the country 5 breeds are dairy breeds, 12 are dual and 26 are draught purpose breeds. The significance of indigenous cattle is immense in diverse conditions across varied managemental practices of the country. The indigenous livestock population is highly adaptable to the local conditions and capable of thriving under it. The Gaolao is a famous dual purpose breed of Vidarbha region mainly Wardha and Nagpur districts of Maharashtra. They are smaller in size, usually white to gray complexion and reared for drought and milk production. The animals are generally maintained under grazing in grassland reserved by forest department, small amount of concentrate is offered to bullocks, milking cows and male calves.

The local indigenous cattle have been evolved over thousands of years of domestication exhibiting unique traits of feed utilization, disease tolerance and adaptability under low input and stressful conditions. Considering the importance of Gaolao breed in particular climatic conditions of Wardha district in Maharashtra a breed conservation efforts were taken under Maharashtra Gene Bank Programme. In order to understand socioeconomic profile of the farmer rearing Gaolao cattle, a study was undertaken in selected villages in Wardha district.

MATERIAL AND METHOD

The present study was conducted in 3 villages namely Chandani (Bk.), Gumgaon, Bothli (Heti) in Arvi and 2 villages namely Danapur, Chopan of Karanja Ghadge block of Wardha district in Maharashtra state during 2015-16. The climate of this area is characterized by hot summer and general dryness throughout the year except during monsoon season i.e. June to September. The minimum temperature is 12.1°C and maximum temp is 42.8 °C with annual rainfall of 985 to 1100 mm. An exploratory research design was used to access the data from selected respondents. A sample size of 476 farmers rearing

Gaolao cattle was selected from 5 villages from Wardha district. Data was collected through specially designed questionnaire by face to face interview of dairy farmers. The collected data was tabulated and analyzed by using standard statistical methods. The objective of the study was undertaken to understand the socio-economic profile of the dairy farmer rearing Gaolao Cattle in Wardha districts of Maharashtra.

RESULTS AND DISCUSSION

The collected data of 476 farmers on various parameters was tabulated and statistically analyzed and depicted in Table 1 and 2. The results of the study are narrated in the following text.

FAMILY TYPE

The family type of farmers was grouped in two category i.e. nuclear and joint family. It was observed that majority (68.18 percent) of the livestock farmer lived in nuclear type family owning 64.48 percent Gaolao cattle and rest were having joint family (31.52 percent), owning 35.51 percent Gaolao cattle (Table 1). The traditional joint family system is decreasing due to migration and fragmentation. These findings are in accordance with the findings of Satyanarayan and Jagadeeswary (2010) and Sathyanarayan *et al.* (2010).

Family size: Majority of farmers (68.48 percent) were having small family size with 1 to 5 members followed by medium (27.52 percent) and large family size (3.99 percent). The farmers expressed that they could lead better and comfortable life with small families. This result is in accordance with the finding of Satyanarayan and Jagadeeswary (2010).

Land holding Pattern: As per the land holding of farmers, they were grouped in four category i.e. small (< 5 acers), marginal (6-10 acers), large (> 10 acers) land holding and landless. It was observed that

majority of the farmers (51.05 percent) were having small land holding and owning 52.82 percent animals, followed by medium land holding farmers (14.91 percent) and owning 19.20 percent animals, 7.35 percent farmer having large land holding owning 8.87 percent animals, while 26.68 percent were landless owning 19.09 percent animals (Table 1). Ananthnag *et al.*, (2014) and Prajapati *et al.*, (2016) we found the similar results.

Source of income: The main source of income of 52.10 percent farmers was agriculture including dairy farming and 46.84 percent were laborer. Farmers adopted rearing of Gaolao cattle to meet their livelihood needs and support to their other economic resources. Prasad, *et al.*, (2017) reported 80.00 percent as main source of income.

Literacy: Education of the respondents was one of the important parameter with respect to adoption of new innovations. The results indicated that 86.55 percent of respondents were literate and owning 85.92 percent animals and remaining 13.45 percent were illiterate and owning 14.08 percent animals (Table 1). These findings were in conformity with the findings of Rathod *et al.* (2011).

ANIMAL MANAGEMENT PRACTICES FOLLOWED BY FARMERS

Herd size: The respondents were grouped according to Gaolao cattle herd size owned by them (Table 2). It was observed that 54.20 percent farmers were having small herd size of Gaolao cattle with 1 to 5 animals and 30.46 percent were having medium herd size with 6-10 animals, 15.33 percent of farmers were having large herd size (above 10 animals). This derives support from the findings of Mande and Thombre (2009).

Breeding of Animal: Most of the farmers used natural service for breeding purpose. The results indicated that only 25.64 percent of the respondents adopted Artificial Insemination, 56.30 percent

adopted natural service and 18.06 percent respondent adopted both type of breeding services (Table 2). The natural breeding services may be followed due to lack of awareness among livestock owner about AI as well as availability of AI in the study area.

Animal housing: Housing of animals is very important under adverse climatic conditions. It maintains thermo neutral zone, in which animals can sustain better production. Majority of the livestock farmers (76.80 percent) tied their animals during night time and rest of the farmers tied their animals in shed during day and night time (23.20 percent). Around 78.79 percent of the livestock farmers had *keachha* type roof animal shed followed by *pucca* roof (21.21 percent).

Results indicated that only 14.28 percent of the dairy farmers were having *pucca* floor of animal shed and 85.71 percent of the dairy farmers were having *keachha* floor in animal shed (Table 2). Mahila (2013) reported that 16.87 percent *keachha* floor of Kankerej cattle in Rajasthan. These findings are in close conformity with the earlier reports of Kumar *et al.* (2006) and Aggarwal and Sharma (1986) who reported that 26 percent of the respondents had *Pucca* floors of cattle shed.

In this study it was observed that majority of the farmers (80.67 percent) of the respondent kept their animal inside dwelling followed by separate from dwelling (19.32 percent). Gupta *et al.* (2008) reported 86 percent and Mahila (2013) reported 66.25 percent of households provide separate stall outside the human dwelling in Rajasthan.

Feeding type: It was observed that majority of the farmers (90.12 percent) were grazing their animals in grass land reserve by forest department and remaining 9.87 percent of farmers provide stall feeding to animals. The traditional practices of group grazing of animal at common places is being followed in study area, which has also minimized the feeding cost. Besides milk, manure and bull

Table 1
Distribution of respondents according to family type and size, land holding, occupation and literacy

#	Parameters	Category	No. of households (N=476)	No. of Gaolao cattle (N=2906)
1	Family type	Nuclear	326(68.18)	1874(64.48)
		Joint family	150(31.52)	1032(35.51)
2	Family size	Small (1-5)	326(68.48)	1874(64.48)
		Medium (6-8)	131(27.52)	861(29.62)
		Large (9-10)	19(3.99)	171(5.84)
3	Landholding	Small (< 5 acres)	243(51.05)	1535(52.82)
		Medium (6-10 acres)	71(14.91)	558(19.20)
		Large (> 10 acres)	35(7.35)	258(8.87)
		Landless	127(26.68)	555(19.09)
4	Main source of income	Dairy and farming	248(52.10)	1690(58.15)
		Labor work	223(46.84)	1194(41.08)
		Service	5(1.05)	13(0.44)
5	Literacy	Literate	412(86.55)	2497(85.92)
		Illiterate	64(13.45)	409(14.08)

(Figures in the parentheses indicates percentage)

Table 2
Distribution of respondent based on herd size, breeding pattern, animal housing, feeding and management practices

#	Parameter	Category	No of household (N= 476)	Percent
1.	Herd size	Small 1-5 animals	258	54.20
		Medium 6-10 animals	145	30.46
		Large 10 above animals	73	15.33
2.	Breeding pattern	Artificial insemination (AI)	122	25.64
		Natural service (NS)	268	56.30
		AI and NS	86	18.06
3.	Animal keeping time in shed	Day/night	104	23.20
		Night	372	76.80
	Roof type of shed	<i>Pucca</i>	101	21.21
		<i>Kachha</i>	375	78.79
	Floor type of shed	<i>Pucca</i>	68	14.28
		<i>Kachha</i>	408	85.71
	Location of Animal shed	Inside house	384	80.67
		Outside house	92	19.32
4.	Animal utility	Milking/agriculture	436	91.60
		Breeding	40	8.40
5.	Feeding pattern	Grazing	429	90.12
		Stall feeding	47	9.87
6.	Hygiene	Clean milking utensil	433	90.96
		Clean udder before milking	447	93.90
7.	Deworming	Practice followed	434	91.17
8.	Vaccination	Practice followed	434	91.17

produced from Gaolao cattle is surplus income to farmer for their livelihoods. Sabapara *et al*, (2016) reported 84.67 percent grazing and 15.33 percent stall feed.

Utility of animals: The results revealed that majority of the livestock farmers (91.60 percent) perceived reason behind the rearing of animals were milk production and animals for agricultural work followed by breeding purpose (8.40 percent). The 90.96 percent of the livestock farmers pointed out that they clean the milking utensils before milking of animals. Around 93.90 percent of the livestock farmers clean the udder before milking and remaining (Table 2).

Deworming and vaccination: It has been observed that 91.17 percent of the respondents regularly followed deworming of animal and 91.17 percent farmer has vaccinated animals against FMD, HS and BQ vaccine which were provided at normal price by government.

CONCLUSIONS

It can be concluded from the profile of the Gaolao farmers that they are dependent on livestock rearing for their livelihood. The literacy rates among livestock farmers is high and most of them live in nuclear families, which is departure from joint family system which was followed traditionally. The dependence on open grazing is high. The cattle are housed in *kaccha* houses and most of the cattle are bred by natural services. There is need to create awareness about animal feeding, management and AI breeding practices among the farmers.

ACKNOWLEDGEMENT

The authors are thankful to Rajiv Gandhi Science & Technology Commission, Government of Maharashtra for financial support, Maharashtra Gene Bank Project team for their help in data collection, Dr. R. L. Bhagat for his valuable suggestions and Mr. N. L. Phadke for statistical analysis of data.

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