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Research Article

STUDY OF SOCIO-ECONOMIC STATUS OF LIVESTOCK KEEPERS AND COMPARATIVE STUDY OF INDIGENOUS AND EXOTIC BREEDS AT SHIROL TAHSIL OF KOLHAPUR DISTRICT, MAHARASHTRA, INDIA

Indrajit Kharat*, Vaibhav Koli and Sagar Jadhav

Department of Zoology, Jaysingpur College, Jaysingpur, 416 101, Maharashtra, India

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ABSTRACT

The main objective of the present study is to study and examine the socio-economic status of livestock keepers, and secondly to compare the indigenous and exotic breeds of livestock on the basis of their number found in the study area and their productivity. We carried out this study in Shirol Tahsil of Kolhapur District, Maharashtra, India. For this study, we selected 30 villages from Shirol Tahsil. We selected 10 livestock keepers from each village randomly. Therefore the total 300 livestock keepers were selected in the study. We used questionnaires to collect data from livestock keepers. This study revealed that many livestock keepers have a low literacy level and small land holding. Also, the livestock keepers reared exotic breeds because exotic breeds have high productivity over the indigenous breeds.

Keywords: Age, Land Holding, Meat, Productivity.

INTRODUCTION

Mankind has been utilizing different animal species from dawn of civilization for a variety of purposes, namely, production of milk, meat, egg and leather. Apart from these, various animal species are also used for drought power, companionship, entertainment, research experimentation, sports, security etc. Livestock sector plays a crucial role in rural economy and livelihood. The organic fertilizer produced by the livestock sector is an important input to crop production and dung from livestock is widely used as fuel in rural areas. Livestock also serves as an insurance substitute, especially for poor rural households it can easily be sold during time of distress (Islam *et al*., 2016). Livestock rearing is a major continuous income generating activity for the rural households which defines their socio- economic status (Mahla *et al*., 2015). Indian agriculture is basically small farm agriculture. About three-fourth holdings are small and production on these holdings is mainly subsistence oriented (Mohan *et al*., 2016). Therefore, Indian farmers depends on livestock rearing practices, as it increases their income, act as substitute for agriculture and also increases their socio-economic status.

MATERIALS AND METHODS

We carried out this research work from October 2017 to January 2018, in Shirol Tahsil, District Kolhapur, and State Maharashtra, India. There are 52 villages and 2 towns in Shirol Tahsil. The present study was conducted in Shirol Tahsil of Kolhapur District. From this area we selected 30 villages namely as Kothali, Umalwad, Jainapur, Chipri, Udagaon, Chinchwad, Ghalwad, Shirdhon, Arjunwad, Shirol, Yadrav, Jambhali, Nandani, Takwade, Kanwad, Kawathesar, Jaysingpur, Ghosarwad, Dharangutti, Herwad, Hasur, Shiradwad, Haroli, Abdullat, Kurundwad, Kutwad, Shirti, Shivnakwadi, Tamdalge, Nimshirgaon.

To study the socio-economic status of livestock keepers in selected villages, survey was conducted in 30 villages from Shirol Tahsil. We selected 10 livestock keepers from each village randomly. A livestock keeper rearing at least 3 Cows or Buffalos, or 5 Goats, or 50 poultry birds was included in study as respondent, therefore total 300 livestock keepers were selected as sample to study the socio-economic status of the livestock keepers and to find various breeds of livestock and their productivity.

*Corresponding Author: Indrajit Kharat, Department of Zoology, Jaysingpur College Jaysingpur, 416 101, Maharashtra, India. Email: kindrajitv@gmail.com, Mobile: +91 8381014472

For the survey we used the following method: The desirable data were collected through personal interview technique. For personal interview, questionnaire was used to collect data from livestock keepers. For the study, we selected some factors or parameters as a socio-economic indicator, namely, age, literacy level, marital status, occupation, land holding, total annual income. For the comparative study of indigenous and exotic breeds, we used some factors for comparison, namely, number of livestock and their productivity as per varieties. The collected data is tabulated and analyzed by using the statistical tools; percentage was used for logical conclusion.

RESULTS AND DISCUSSION

Status of age of livestock keepers is given in table 1. In the present study, Age of livestock keepers has been recorded. The study revealed that, 49% of old age group peoples were engaged in livestock keeping and 16% of the young age group peoples were engaged in livestock keeping. Middle age group people were moderately involved in livestock keeping. These are about 35%. The study revealed that, the young age group peoples showed less importance to the livestock keeping as compared to the middle age and old age group peoples.

Status of literacy level of livestock keepers is given in (Table 1). In the present study, literacy level of livestock keepers has been recorded. The study revealed that, 53% of livestock keepers were educated up to high school level and 5.33% of livestock keepers were educated up to primary school level. 9% of livestock keepers were uneducated. As per the status of age of the livestock keepers, we know that most of the livestock keepers belong to old age group. These old age group shows low literacy level. However, 16.33% of the livestock keepers were educated up to graduate and above. Also 16.33% of the livestock keepers were educated up to higher secondary level. Marital status of livestock keepers is given in table 1. In the present study, marital status of livestock keepers has been recorded. The study revealed that, 91.33% of livestock keepers were married. These factors correlate with the status of Age of livestock keepers, as most of the livestock keepers belongs to middle and old age group category. However 8.66% of livestock keepers were unmarried.

Status of occupation of livestock keepers is given in table 1. In the present study, a status of occupation of livestock keepers has been recorded. The study revealed that, 85.33% of the livestock keepers were engaged in agriculture as their occupation. This percentage correlates with literacy level of livestock keepers. Due to low literacy level, most of the livestock keepers were engaged in agriculture as their occupation. However, 11% of livestock keepers have service and agriculture as their occupation. Only 1.66% and 2% of livestock keepers were engaged in business and agriculture; and service, business and agriculture as their occupation respectively. Status of land holding of livestock keepers is given in table 1. In the present study, status of land holding of livestock keepers has been recorded. The study revealed that, 89% of livestock keepers have their land holding up to 5 acre. Due to large population or family size, the lands are divided into small pieces. Therefore, most of the livestock keepers have small land holding. Only 6.66% and 1% of livestock keepers have their land holding between 5.01 to 10 acre and above 10.01 acre respectively. However 3.33% of livestock keepers are landless. Status of total annual income of livestock keepers is given in table 1. In the present study, status of total annual income has been recorded. The present study revealed that, 34.33% of livestock keepers have total annual income between 50,001-1, 00,000. 33.66% of livestock keepers have total annual income up to 50,000. Only 32% of livestock keepers have total annual income above 1, 00,000. From (Table 2) it is observed that, among the Indigenous breeds of cow the unknown breeds were like 2- males, 63-females and 66-kids were found i.e. total 131 breeds. From the Khilari breeds only 6-males and 3-females were found means total 9 breeds. Among the Gir breeds 10-females and 7-kids were found that means total 17 cows of Gir breed were found.

Among the Exotic breeds of cow Jursy breed were found like 362-females and 58 kids i.e. 420 Jursy breeds were found which was highest in number of use. Among the Holstein breeds 31-females and 13-kids were found i.e. 44 Holstein breeds were found. Among the Holstein Friesians (HF) breeds 16-females and 6-kids i.e. 22 breeds were found. Among the Denmark (Red Dane) breeds only 1-female and 3-kids i.e. 4 breeds were found which was lowest in number of use in comparing with other breeds. Due to high productivity of milk livestock keepers attracted towards exotic cow breeds. This aspect gives more income to livestock keepers. Hence exotic cow breeds are found in more number as compared with indigenous cow breeds.

From the (Table 2) it is observed that only indigenous breeds of buffalos are used and no any Exotic breeds found in the study area. We found some Unknown breeds of buffalos among which there were 1-male, 203-female and 80-kids i.e. total 248 which was highest in number of use in comparing with other breeds. Other breed we found was Karnali of which there were 22-females and 10-kids i.e. total 32, Murah of which there were 68-females and 18-kids i.e. total 86. Mehsana breed of which there were 43-females and 20-kids i.e. total 63. Pandharpuri of which there were 42-females and 16-kids i.e. total 58 and last breed we found was Jafarabadi of which only 4-kids were found which lowest in number was found in comparing with other breeds (Rawat *et al*., 2015).

From the (Table 2) it is observed that the both type of breeds of Goats i.e. Indigenous as well as Exotic breed was found. From the Indigenous breed only Osmanabadi was found in number like 24-males, 180-female and 18-kids i.e. 222 total breeds were found. From the Exotic breed only Boer breed was found of which 1-male, 3-female and 2-kids were found. From the (Table 2) it is observed that, in the study area we found only two Indigenous poultry birds. These are Broiler Saguna (400Y) and Layer Giriraj (Mali & Ligade, 2015).

Table 1. Statistical analysis of livestock keepers according to their Socio-economic status.

Sr. No.	Socio-economic Factor	Category	N	%
1	Age	Young[16-30]	48	16
		Middle[31-45]	105	35
		Old[Above 46]	147	49
2	Literacy Level	Uneducated	27	9
		Primary School[1^{st}-4^{th}]	16	5.33
		High School[5^{th}-10^{th}]	159	53
		Higher Secondary[11^{th}-12^{th}]	49	16.33
		Graduate and Above	49	16.33
3	Marital Status	Married	274	91.33
		Unmarried	26	8.66
4	Occupation	Agriculture	256	85.33
		Service+ Agriculture	33	11
		Business+ Agriculture	5	1.66
		Service +Business+ Agriculture	6	2
5	Land Holding	Up to 5 Acre	267	89
		5.01-10 acre	20	6.66
		10.01-Above	3	1
		Landless	10	3.33
6	Total Annual Income	Up to 50000	101	33.66
		50001-100000	103	34.33
		Above100000	96	32

Table 2. Indigenous and Exotic Breeds of livestock found in the study area.

Type of livestock	Type of breed		Name of breed	Male	Female	Kids	Total
Cow	Indigenous		Indigenous (Unknown) Cow	2	63	66	131
			Khilari	6	3	-	9
	Exotic		Gir	-	10	7	17
			Jursy	-	362	58	420
			Holstein	-	31	13	44
			Holstein Friesians(HF)	-	16	6	22
			Denmark (Red Dane)	-	1	3	4
Buffalo	Indigenous		Indigenous (Unknown) Buffalo	1	203	80	284
			Karnali	-	22	10	32
			Murah	-	68	18	86
			Mehsana	-	43	20	63
			Pandharpuri	-	42	16	58
			Jafarabadi	-	-	4	4
	Exotic		-	-	-	-	-
Goat	Indigenous		Osmanabadi	24	180	18	222
	Exotic		Boer	1	3	2	6
Poultry Bird	Broiler	Indigenous	Saguna (400Y)	-	15000	2000	17000
		Exotic	-	-	-	-	-
	Layer	Indigenous	Giriraj	-	50	-	50
		Exotic	-	-	-	-	-

Table 3. Productivity of livestock as per varieties.

Type of Cattle	Type of Breeds	Name of Breeds	Productivity		
			Milk Liter/Day	Meat Kilogram/Goat or Kilogram/Bird	Egg Number of Egg/Year
Cows	Indigenous	Indigenous(Unknown)	8-7	-	-
		Khilari	6-7	-	-
	Exotic	Gir	10-12	-	-
		Jursy	12-14	-	-
		Holstein	14-15	-	-
		Holstein Friesians	14-16	-	-
		Denmark	8-10	-	-
Buffalo	Indigenous	Indigenous (Unknown)	6-8	-	-
		Karnali	8-10	-	-
		Murah	8-9	-	-
		Mehsana	8-10	-	-
		Pandharpuri	8-9	-	-
		Jafarabadi	25-28	-	-
Goats	Indigenous	Osmanabadi	1	15-20	-
	Exotic	Boer	1	30	-
Poultry Bird	Indigenous	Saguna (400Y)	-	2.5	-
		Giriraj	-	2	140-150

We found 15000-females and 2000 kids i.e. total 17000 birds of Saguna (400Y), we also found Layer Giriraj in which only 50-females were there. It means that the most commonly and widely used poultry bird is Indigenous Broiler named Saguna than Indigenous Layer and Exotic poultry birds. From the (Table 2 and Table 3), it is observed that, some livestock keeper doesn't know the name of breeds specifically, which are reared by them. But they had knowledge about that unknown breed as they belong to Indigenous breed. The reason behind this was that, the most of the livestock keepers had have low literacy level. Therefore they are unknown about specific names of breeds. The average milk production of Indigenous (unknown) and Khilari cow is 7 liter per day. On the other hand Gir produces more amount of milk i.e. 10 liter per day. The average milk production of Jursy, Holstein, and Holstein Friesians (HF) is about 14 liter per day. While Denmark produces less amount of milk as compared with other exotic cows i.e. 10 liter per day. The average milk production of Indigenous (unknown), Karnali, Murah, Mehsana buffalo is about 8 liter per day. Jafarabadi buffalo produces large amount of milk as compared with other breeds of buffalo i.e. 25 liter per day(Nipane *et al*., 2016).

As we know that, the Goat varieties produce both milk and meat, as a food for human being. Therefore we not only collected and tabulated the production of milk of goat but also production of meat. The average milk production of Osmanabadi and Boer is about 1 liter per day. The average meat production of Osmanabadi goat is about 15 Kg. The exotic breed Boer produces large amount of meat i.e. 30 Kg. As we know that, the Poultry Bird varieties produce both Egg and meat, as a food for human being. Therefore we not only collected and tabulated the production of Egg of Poultry Bird but also production of meat. Giriraj lays 140-150 eggs per year. The average meat production of both Saguna and Giriraj is about 2 Kg.

CONCLUSION

From the present study, we concluded the following points. These are as follows. In the study region, most of the livestock keepers belong to old age group, which shows impact on their socio-economic status, such as, low literacy level, agricultural based occupation, and small land holding, low annual income. In the study region, the exotic breeds of cow were found in high number, as compared to indigenous breeds of cow. But the indigenous breeds of buffalo, goat and poultry birds were found in high number. Here, we concluded that, due to high productivity of milk livestock keepers attracted towards exotic cow breeds. This aspect gives more income to livestock keepers. Hence exotic cow breeds are found in more number as compared with other livestock breeds. The productivity table of the study that is Table 3 gives the answer of a question "Why livestock keepers attracted towards exotic breeds instead indigenous breeds?" The productivity of exotic breeds of livestock was found in large amount as compared to the productivity of indigenous breeds. From all the study, we concluded that, the livestock keepers of Shirol Tahsil, slowly increases their socio-economic status with the help and aid of exotic breeds of livestock.

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