Marketing Pattern and Constraints of Traditional Goat Farming in Punjab

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Abstract

The present study was conducted in three districts of Punjab state having maximum goat population namely Bathinda, Fazilka and Muktsar during the year 2018-19 with sample size of 32 traditional goat farmers. A majority of the farmers (84.38 per cent) had access to market information and the main source of information was friends, social media and farmer's fairs. Category wise, large goat farmers have more access to information from social media and friends than small and medium category goat farmers. Marketed surplus of milk was found to be 69.08 per cent and it was as high as 86.29 per cent in large category. The milk was mainly sold through milk vendors and the dependence on milk vendors was more in the case of medium category farmers and small category farmers prefer direct sale to consumer. The mode of payment by buyer was totally by cash (100 %) and was regularly sold as it is perishable in nature and can not be stored. A majority (77.16%) of the farmers used to get the payment within a month. Regarding sale of live goats, majority of the traditional goat farmers (52.97 %) sold goats on live weight basis. The mode of payment by buyer was totally by cash. A majority of the farmers (47.52 %) sold goats on six monthly interval. All the farmers used to get the immediate payments. Fluctuating prices of goat milk was the most important marketing followed by lack of proper market, less price of goat milk, distant market, fluctuating prices of goat meat/live animals.

Keywords: Market information, Marketed surplus, Marketing constraints, Price pattern, Traditional

JEL Classification: Q12, Q13

Introduction

Goats constitute an important species of livestock in Asia and contribute substantially to food, rural employment and income. Goat meat is relished in all countries of Asia, Africa and Middle East where there is a tradition for meat consumption from both sheep and goats, and in some countries, such as plains of India, the goat is the major supplier of meat. Goat farming is a good source of income for resource poor farmers. China has the highest consumption of goat meat, followed by India and Pakistan. Thus, there is a considerable potential for enhancing goat production not only for meat for internal consumption but also for export, for quality leather production in which India ranks high among the goat skin exporting countries. India having the second largest goat population in the World can play a vital role to exploit this market.

Livestock has been an integral component of India's agricultural and rural economy since time immemorial. Presently, it contributes 25.80 per cent of agricultural gross domestic product (GDP) in India (GOI, 2019) and for Punjab state, this share was 38.77 per cent during 2019-20 (GOP, 2020). Goat meat is consumed widely throughout the world, especially in developing countries. Demand for goat meat in Indian domestic market is very high and it fetches higher price as compared to other meat. In India, 95 per cent of goat meat produced is consumed locally and the per capita availability is far below the requirement.

With 148.88 million goats (14.39 per cent), India ranks second after China in world's goat population. Goat meat constitutes 13.53 per cent and 3.74 per cent of total meat production in India and Punjab, respectively.

Further, goat milk constitutes 3.25 per cent and 0.54 per cent of total milk production in India and Punjab, respectively. Punjab ranks 22nd in goat population (0.23 %) contributing 0.81 per cent of goat meat and 1.11 per cent of goat milk production in India (GOI, 2019). Goat farming have enough potential for meat production providing good source of income and employment. The goat farming provides financial and nutritional security and sustainable income to poor households (Dixit and Singh, 2014).

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The study of marketing pattern and constraints of traditional goat farming will be helpful in providing vital information related to marketing of goats in various sized traditional goat farms in the state. Based on that, suitable policies may be framed for the benefit of the farmers. The present study will be one of its kinds in this direction and will provide useful information to future researchers, policy planners and other stakeholders in the livestock sector.

Data Sources and Methodology

The period of the study was agricultural year 2018-19. The primary data was selected and the study was conducted in three districts of Punjab state namely Bathinda, Fazilka and Muktsar. These three districts were selected purposively on the basis of the maximum number of goats in the study area. Amongst the three selected districts, proportional sample of goat farmers was taken with respect to the goat population in these districts so as to make a total sample of 32 traditional goat farmers. Traditional goat farms are usually synonymous to grazing system (predominantly grazing allowing occasional and little stall feeding) where nutritional requirements of animals may or may not have met depending upon availability of feed resources during different seasons of the year. By using cumulative cube root frequency method of stratification, the goat farmers were divided into the small, medium and large categories. The selection of goat farmers of various size categories from various districts is given in Table 1.

Table 1. Selection of traditional goat farmers across various size categories in Punjab, 2018-19

District	Small (up to 28)	Medium (28-54)	Large (>54)	Total
Bathinda	4	5	3	12
Fazilka	5	5	1	11
Muktsar	2	3	4	9
Total	11	13	8	32

Marketed surplus

It is the quantity which the producer actually sells in market irrespective of his needs for home consumption and other requirements.

Statistical tools of analysis

In order to accomplish the objectives of the study, appropriate statistical tools and techniques like averages and percentages etc. were used and relevant inferences were drawn. Tabular analysis was adopted to analyze the marketing pattern associated with goat farming and the price spread of different marketing channels.

Garrett's Ranking Technique was used to analyze the marketing constraints being faced by goat farmers (Singh *et al,* 2018). Under the Garrett's Ranking Technique with multiple responses, the percentage position is calculated by using the following formula:

$$\text{Percentage Position} = \frac{100\ (R_{ij} - 0.5)}{N_j}$$

Where;

R_{ij} = Rank given for i^{th} constraint by the jth respondent.

N_j = Number of constraint ranked by the jth respondent.

Results and Discussion

Access to market information among goat farmers in Punjab

A perusal of the Table 2 shows that 84.38 per cent farmers had access to market information and the main source of information was friends (65.63 per cent) followed by social media (56.25 per cent) and farmer's fairs (21.88 per cent). Category wise, large goat famers have more access to information from social media and friends than small and medium category goat farmers. It indicates that traditional goat farmers have less access to market information than organized goat farmers.

Marketed surplus of goat milk in Punjab

The persual of table 3 shows that overall marketed surplus of milk in traditional goat farms was found to be 69.08 per cent and was high as 86.29 per cent in large category followed by medium category (76.56 %) and small category (47.73 %). The milk retained by the goat farmers at home and fed to calves was about 19.64 per cent and 11.28 per cent respectively. The goat milk retained at home was highest under small farmers category (39.79 %) followed by medium (11.16 %) and large farmers (5.69 %) respectively.

Sale of goat milk through various intermediaries in Punjab

The persual of Table 4 shows that majority (67.19 %) of the traditional goat farmers sell goat milk to milk vendor followed by direct sale to consumer (30.94 %) and sale to *halwai* (1.87 %). The dependence on milk vendors for sale of milk was more in the case of medium category farmers, whereas small category farmers prefer to sale directly to the consumer.

Mode and frequency of goat milk sale in traditional goat farms in Punjab

The persual of table 5 shows that all the traditional goat farmers sold milk on lumpsum basis. The mode of payment by buyer was totally by cash and was regularly sold as it is perishable in nature and can not be stored. A majority (77.16 %) of the farmers used to get the payment within a month and the type of market was unregulated as reported by all the farmers.

Table 2. Access to market information among traditional goat farmers in Punjab, 2018-19

Category	Yes	No	Total	Source of such information (multiple response)					
				Friends	Print media	Electronic media	Magazines	Farmers fairs	Social media
Small	6 (54.55)	5 (45.45)	11 (100.00)	6 (54.55)	0 (0.00)	0 (0.00)	0 (0.00)	1 (9.09)	5 (45.45)
Medium	13 (100.00)	0 (0.00)	13 (100.00)	8 (61.54)	0 (0.00)	0 (0.00)	0 (0.00)	4 (30.77)	7 (53.85)
Large	8 (100.00)	0 (0.00)	8 (100.00)	7 (87.5)	0 (0.00)	0 (0.00)	0 (0.00)	2 (25.00)	6 (75.00)
Overall	27 (84.38)	5 (15.63)	32 (100.00)	21 (65.63)	0 (0.00)	0 (0.00)	0 (0.00)	7 (21.88)	18 (56.25)

Note: The percentage is taken by dividing the number of farmers by the respective category size. Due to multiple responses by individual farmers, the total of percentage in each category may be more than 100.

Table 3. Marketed surplus of goat milk in Punjab, 2018-19   **(in litres)**

Category	Annual Milk Production	Home Retention	Total milk fed to kids	Marketed Surplus
Small	2239.03 (100.00)	890.91 (39.79)	279.35 (12.48)	1068.78 (47.73)
Medium	5050.90 (100.00)	563.85 (11.16)	620.33 (12.28)	3866.72 (76.56)
Large	12204.83 (100.00)	694.38 (5.69)	978.50 (8.02)	10532.00 (86.29)
Overall	5872.80 (100.00)	708.91 (19.64)	592.66 (11.28)	4571.24 (69.08)

Note: Figures in parenthesis are per cent to annual milk production

Price pattern (Uniformity of prices) of goat milk in Punjab

The price pattern (uniformity of prices) of goat milk in organized and traditional goat farms have been presented in Table 6. The scrutiny of the table revealed that, overall average price of goat milk was found to be highest i.e. Rs. 69.69. and it was highest in large category in month of October-November i.e. Rs. 81.88/litre followed by medium category with Rs. 71.92/litre in October-November and small category with Rs. 58.18/litre in October-November. The lowest goat milk prices were in the month of May-June when it was as low as Rs. 22.47/litre. All the traditional goat farmers reported that the milk prices were not uniform and these were variable according to demand.

Mode and frequency of live goat sale in traditional goat farms in Punjab

The persual of table 7 reveals that the majority of traditional goat producers (52.97 %) sold goats on the basis of live weight, with 47.03 per cent selling goats on the basis of both age and live weight. The buyer made all of his payments in cash. The majority of farmers (47.52 %) sell goats on a six-monthly basis, followed by quarterly (32.20%) and regular sales (20.28 %). All the farmers used to get the immediate payments and type of market was unregulated as reported by all the farmers

Table 4. Sale of goat milk through various intermediaries in Punjab, 2018-19

                                                                (Per cent)

Category	Milk vendor	Consumer	Halwai
Small	45.45	54.55	0
Medium	80.77	16.15	3.08
Large	75	22.5	2.5
Overall	67.19	30.94	1.87

Table 5. Mode and frequency of goat milk sale in traditional goat farms in Punjab, 2018-19

Particulars	Small	Medium	Large	Overall
Basis of sale				
Fat	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Lumpsum	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)
Mode of payment by buyer				
Cash	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)
Cheque	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Both	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Frequency of sale				
Regularly	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)
Quarterly	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Six monthly	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Yearly	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Frequency of payment by buyer				
Immediate	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
in 15 days	5	3	0	8
	(45.45)	(23.08)	(0)	(22.84)
in one month	6	10	8	24
	(54.55)	(76.92)	(100)	(77.16)
in 3 months	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
in 6 month	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Type of market				
Regulated	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Unregulated	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)

Note: Figures in parenthesis are per cent to total

Table 6. Price pattern (Uniformity of prices) of goat milk in Punjab, 2018-19

Category	Highest				Lowest			
	Price Rs. /litre	Month	Uniform	According to demand	Price Rs. /litre	Month	Uniform	According to demand
Small	58.18	October-November	0	11	21.36	May-June	0	11
Medium	71.92	October-November	0	13	22.77	May-June	0	13
Large	81.88	October-November	0	8	23.5	May-June	0	8
Overall	69.69	October-November	0	32	22.47	May-June	0	32

Table 7. Mode and frequency of live goat sale in traditional goat farms in Punjab, 2018-19

	Small	Medium	Large	Overall
Basis of sale				
Age	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Live weight	5	5	6	16
	(45.45)	(38.46)	(75.00)	(52.97)
Both	6	8	2	16
	(54.55)	(61.54)	(25.00)	(47.03)
Mode of payment by buyer				
Cash	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)
Cheque	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Both	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Frequency of sale				
Regularly	5	2	0	7
	(45.45)	(15.38)	(0.00)	(20.28)
Quarterly	1	0	7	8
	(9.09)	(0)	(87.5)	(32.20)
Six monthly	5	11	1	17
	(45.45)	(84.62)	(12.5	(47.52)
Yearly	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Frequency of payment by buyer				
Immediate	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)
in 15 days	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
in 1 month	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
in 3 months	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
in 6 month	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Type of market				
Regulated	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)
Unregulated	11	13	8	32
	(100.00)	(100.00)	(100.00)	(100.00)

Note: Figures in parenthesis are per cent to total

Price pattern (Uniformity of prices) of live goat sale in Punjab

The price pattern (uniformity of prices) of live goats in organized and traditional goat farms have been presented in Table 8. The scrutiny of the table revealed that the overall average price of animal was found to be highest Rs. 9546.88 in the month of August and it was highest in large category i.e. Rs. 10688 followed by medium category with Rs. 10346 and small category with Rs. 7773. The lowest animal prices were in the month of May-June when it was as low as Rs. 6140.63. All the traditional goat farmers reported that the animal sale prices were not uniform and these were variable according to demand.

Marketing constraints being faced by traditional goat farmers in Punjab

Various marketing constraints faced by traditional goat

Table 8. Price pattern (Uniformity of prices) of live goats in Punjab, 2018-19

Category	Highest				Lowest			
	Price Rs. /animal	Month	Uniform	According to demand	Price Rs/ animal	Month	Uniform	According to demand
Small	7,773	August	0	11	4,545	May-June	0	11
Medium	10,346	August	0	13	6,923	May-June	0	13
Large	10,688	August	0	8	7,063	May-June	0	8
Overall	9546.88	August	0	32	6140.63	May-June	0	32

Table 9. Ranking of marketing constraints being faced by traditional goat farmers in Punjab, 2018-19

Problems	Total score	Mean score	Rank
Less price of goat milk	2124	66.38	III
Fluctuating prices of goat milk	2204	68.88	I
Less price of goat meat/live animals	1123	35.09	IX
Fluctuating prices of goat meat/live animals	1755	54.84	V
Delay in payments	842	26.31	X
Lack of proper market	2158	67.44	II
Malpractices by middlemen	1219	38.09	VIII
Distant market	1756	54.88	IV
Higher marketing cost	1357	42.41	VII
Lack of market information	1494	46.69	VI

farmers have been presented in Table 9. Among various marketing constraints faced by traditional goat farmers, fluctuating prices of goat milk got the first rank followed by lack of proper market, less price of goat milk, distant market, fluctuating prices of goat meat/live animals, lack of market information, higher marketing cost, malpractices by middlemen, less price of goat meat/live animals and delay in payments. The major marketing problems faced by organized as well traditional goat farmers were similar to each other.

Conclusion and Policy Implications

It may be concluded from the foregoing discussion that 84.38 per cent farmers had access to market information and the main source of information was friends (65.63%) followed by social media (56.25 %) and farmer's fairs (21.88%). Overall marketed surplus of milk in traditional goat farms was found to be 69.08 per cent and was as high as 86.29 per cent in large category. Majority (67.19 %) of the traditional goat farmers sell goat milk to milk vendor followed by direct sale to consumer (30.94 %) and sale to *halwai* (1.87 %). The mode of payment by buyer was totally by cash (100 %) and was regularly sold as it is perishable in nature and can not be stored. A majority (77.16 %) of the farmers used to get the payment within a month. Majority of the traditional goat farmers (52.97 %) sold goats on live weight basis followed by 47.03 per cent farmers selling goats

on age as well as live weight basis. The mode of payment by buyer was totally by cash. A majority of the farmers (47.52%) sell goats on six monthly interval and all the farmers used to get the immediate payments. Fluctuating prices of goat milk got the first rank followed by lack of proper market, less price of goat milk, distant market, fluctuating prices of goat meat/live animals. Hence, attempts should be made by the government to promote the sale of goat milk separately as it is believed to have medicinal values too. This step will further enhance the profitability from goat farming. Further, there is need of disseminating scientific information on goat farming through various extension activities like camps, fairs and radio/TV talks, popular articles in magazines and newspapers.

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