



## Study on Supply Chains of Goats in Northern Kerala

BIMAL PUTHUPARAMPIL BASHIR<sup>1</sup>, R THIRUPATHY VENKATACHALAPATHY<sup>2</sup>

<sup>1</sup>Department Of Veterinary And Animal Husbandry Extension, College Of Veterinary And Animal Sciences Pookode Wayanad, Kerala, India, 683576; <sup>2</sup>Associate Professor and Head, University goat and sheep farm, Centre for Advanced Studies in Animal Genetics and Breeding, College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala, India.

**Abstract** | A study was undertaken to assess the socio-economic status of the goat farmers and various supply chains of goats in the northern part of Kerala. Agriculture remains the major occupation in the area, dominated by small, marginal and homestead farmers. The average land holdings were small with 10-20 cents. Goat farming was mainly dominated by small and marginal farmers. According to the livestock census 2012, goat population in Kerala was 12.46 lakhs, next to cattle with 13.29 lakhs. The study was conducted during 2015-16 period at six centres centers of the All India Coordinated Research Project (AICRP) for the improvement of Malabari goat viz. Vadakara and Perambra, Taliparamba and Thalassery and Kottakkal and Tanur located at Kozhikode, Kannur and Malapuram district, respectively. Information were collected through well structured pre-tested interview schedule developed at Goat and Sheep farm, College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala. Sixty farmers from each of the six centres were randomly selected to constitute a total of 360 farmers as sample for the study. Around 90% of the goat farmers in above areas were having land holding less than 30 cents. The participation of women in goat rearing and production was about 65%. Nearly 92% of the heads of the families were educated and 15% of them had high school level education and above the average flock size was around 4.10. Around 85 % farmers follows homestead production system with flock size 4-6, 18-19% farmers follows semi intensive system with average flock size farmers follows and only less than 0.5% follows intensive system with flock size 35-40 goats, most of them rear goats exclusively for meat production. The study also elaborated various supply chains in goat rearing especially in case of goat meat production in the region.

**Keywords** | Supply chain, Goat, Kerala, Malabari, Women

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\***Correspondence** | Bimal Puthuparampil Bashir, Department Of Veterinary And Animal Husbandry Extension, College Of Veterinary And Animal Sciences Pookode Wayanad, Kerala, India, 683576; **Email:** bimalpbashirdrvet@gmail.com

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## INTRODUCTION

Goat keepers of Kerala are mainly dominated by small, marginal and homestead farmers. The average land holding sizes are small with 10-20 cents (Devi and Kumar, 2011). The goat population in Kerala is 13.29 lakhs (19<sup>th</sup> Quinquennial Livestock Census). Malabari goat, one of the native goat breeds of Kerala, is famous for its prolificacy and adaptability to humid tropical climate. By virtue of their higher prolificacy and better productivity, goat ass-

ured income to the rural population with low input cost in diverse agro-climatic conditions. In spite of huge demand for the goat in the state, the farmers were not able to get proper price for goats. In this backdrop a study was conducted to identify the socio-economic status as well as the supply chain of goat for meat purpose in the Northern part of Kerala. In this study an attempt was made to identify major supply chain prevalent in the study area and the share of return obtained by each players in the goat trade.

The study was conducted during 2015-16 period at six centers of the All India Coordinated Research Project (AICRP) for the improvement of Malabari goat viz. Vada-kara and Perambra, Taliparamba and Thalassery, Kottakkal and Tanur located at Kozhikode, Kannur and Malapuram district, respectively. Information were collected through well structured pre-tested interview schedule developed at Goat and Sheep farm, College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala. Sixty farmers from each of the six centres were randomly selected to constitute a total of 360 farmers as sample for the study (Srinivas et al., 2014). In order to identify the supply chain of goats, snowball technique was used to identify the goat traders as well as commission agents in goat trade in the study area. Altogether, sixty goat traders/ commission agents were identified and data were collected through personal interview. Additional information were also collected from three markets in the study area.

## RESULTS AND DISCUSSIONS

The perusal of Table 1 revealed that around 78% of the goat farmers in above areas were having land holding less than 25 cents. The participation of women in goat rearing and production was about 65%. Nearly 96% of the heads of the families were educated and 28.50 % of them had high school level education and above the average flock size was around 4.10. Around 85 % farmers follows homestead production system with flock size 4-6, 18-19% farmers follows semi intensive system with average flock size farmers follows and only less than 0.5% follows intensive system with flock size 35-40 goats, most of them rear goats exclusively for meat production. Majority (84%) of the farmers reared goats for meat (Bashir and Venkatachalapathy, 2016).

### POTENTIAL SCOPE OF RETURNS FROM GOAT FARMING

Table 2 elaborated various ways of revenue from goat farming. The farmers over the years had identified various ways of returns from goat farming and they includes, selling of goats for meat purpose, selling of goat dung, goat urine as manure, sales of goat milk, sales of goat urine to ayurvedic pharmacies and keeping breeding buck for natural services (AICRP-Annual Report, 2015-2016). Majority (94%) farmers rear goat mainly for meat purpose and other sources income includes selling of goat dung (67%) and all other ways of returns were utilized only by 7 to 18 per cent of the farmers. This might be due to the fact that goat farmers were not aware of these new ways of returns from the goat rearing such as utilization of urine for manure and pharmaceutical purpose etc.

Market channels for goats: Goat producers in the study area sell live goats in 5 channels (Figure 1). They may di-

rectly sell animals to butchers or sell to traders or to other/ commission agents/neighboring goat farmers; or may sell animals through Goat Producer Company. Commission agents may sell animal to traders or directly to butchers, the traders as well as neighboring goat farmers sell animals to butchers. Finally butchers sell to consumers. Goat trading mostly takes place in the first, second and third channels in the study area (50% in the first, 20% in the second and 15% in the third channel), whereas, fourth (10%) and fifth (5%) channel are new emerging supply chains in goat trade.

**Table 1: Socio-personal details of farmers** n=360

Sl. No.			Frequency	Percentage
A	Education (Level)	College	10	2.70
		High school	103	28.50
		Primary school	232	64.60
		Illiterate	15	4.20
B	Land holdings (cents)	<25	281	77.80
		25-50	51	14.30
		50-75	8	2.30
		75-100	6	1.80
		>100	14	3.80
C	Flock	one	33	9.1
		two	67	18.7
		three	89	24.8
		four	84	23.3
		Five and above	87	24.1
D	Family size (level)	Small (up to 4)	175	48.50
		Medium (5 to 8)	168	46.70
		Large (>8)	17	4.80
E	Gender	Male	126	35
		Female	234	65
F	Systems of rearing	Homestead system	293	81.5
		Semi-intensive system	65	18
		Intensive system	2	.5
G	Type of rearing	Meat purpose only	296	84
		Meat + Milk	44	12
		For Dung and Urine only	22	6

Table 2: Potential scope of returns from goat farming

n=360

Sl. No.	Farm products	Range of price	Average price	Goat farmers engaged in this business	
				Frequency	Percentage
1.	Goat sold for meat purpose	Rs. 5000 – Rs. 7000 (1 year age) (40 Kg.)	Rs.6000	338	94
2.	Goat dung	Rs. 5 – Rs. 10 (per Kg.)	Rs. 8	241	67
3.	Goat Urine as manure	Rs. 2 - Rs. 8 (per litre)	Rs. 5	65	18
4.	Goat milk	Rs. 60-Rs. 120 (per litre)	Rs. 80	43	12
5.	Goat urine for preparation of ayurvedic medicine	Rs. 150 – Rs. 200 (per litre)	Rs. 175	32	9
6.	Keeping breeding bucks for Natural Insemination	Rs. 50 – Rs. 200 (per service)	Rs. 100	25	7

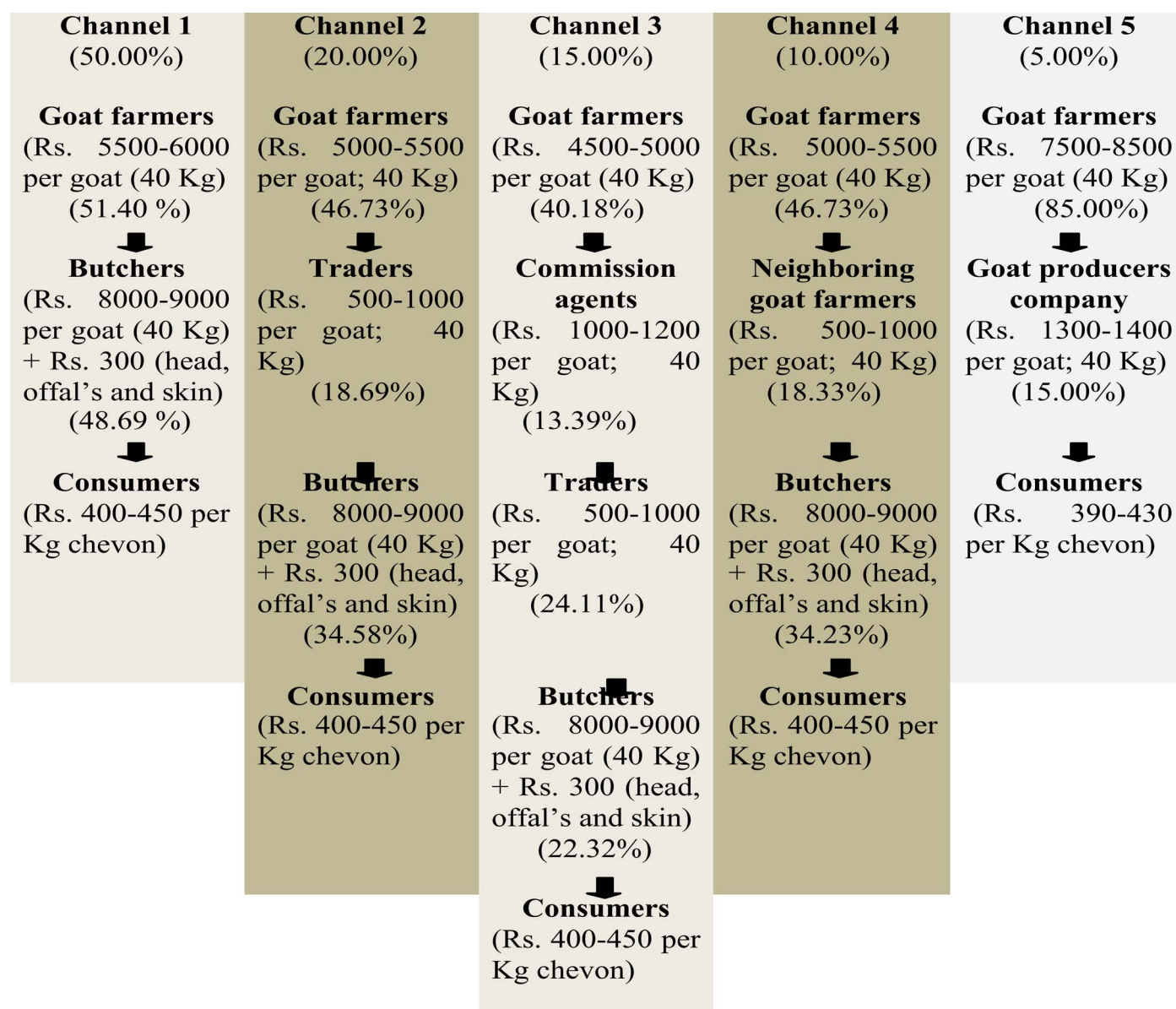


Figure 1: Supply chain of goats for meat purpose in the study area.

CHANNEL 1

Goat farmers -----> Butcher -----> Consumers (50.00%)

This channel of sales of goat constitute to about half of the

total trade of goats in the study area. In this channel the butchers collect goats from the farmers at their doorsteps and the price of the animals were mainly determined by the physical appearances only. Usually the butchers got the

upper hand in this trade, mostly they were the person who decides the price of the animals. The margins of share of goat were 51.40 per cent for the goat farmers and 49.69 per cent for the butchers. Farmers also favour this sort of trade because of the fact that butchers usually offer ready cash and they take the delivery on their doorsteps.

### CHANNEL 2

**Goat farmers ---> traders ---> Butchers ---> Consumers (20.00 %)**

In this channel, apart from butchers, goat traders are also involved. Around 20.00 per cent of the supply chains of goats for meat in the area were through this channel. Goat traders were people who are engaged in buying and selling of goats in a particular locality. They may be either supplier or distributors of goats in large bulk based on orders or demands in the market. They usually sell to the distributors or butchers and from them to the end consumers. In this channel, the margin of share were in the order goat farmers (46.73%), traders (18.69%) and butchers (34.58%)

### CHANNEL 3

**Goat farmers --> Commission agents --> traders --> Butchers --> Consumers (15.00 %)**

Other way of goat trade were through commission agents, were more than two players are involved in the supply chain. This channel contributes around fifteen per cent of the total goat trade in the study area. This channel being the longest of all and the farmer's share of margin were the minimum among all the channels identified. The trade starts with the commission agent who gathers information about the availability of goats and collects information about the number, price of goats etc. He conveys the information to the traders and with the help of commission agent the traders will fix the price for goats at the farmer's doorsteps. Usually these channels gather momentum prior to festival season and also when there is any disease outbreak especially during the rainy seasons, or there is scarcity of fodder, when the farmers have difficulty in rearing goats and when farmers are forced to reduce their flock size. This channel mainly intent to exploit the farmers situation and the commission agents as well as the traders take the most advantages. In this channel, the margins of share were in the order goat farmers (40.18%), traders (24.11%), butchers (22.32%) and Commission agents (13.39%).

### CHANNEL 4

**Goat farmers ---> neighboring goat farmers ---> Butcher ---> Consumers (10.00 %)**

This is an emerging channel where the one of the farmers in the locality purchase the goats and usually rear the animals for a month or more until they find a suitable buyer. Usually these neighboring goat farmers usually get the goat mostly in the off seasons and they used to sell the animal

during the festival season when there will be great demand for the goat meat. Usually the payments to goat farmers are mostly made only after final sale of goat and the neighboring goat farmers also get a share of profit in the trade. In this channel, the margin of share were in the order, goat farmers (46.73%), neighboring goat farmers (18.33%) and butchers (34.23%)

### CHANNEL 5

**Goat farmers ---> Goat producer company ---> Consumers (5.00%)**

This is an emerging channel in goat trade where goat farmers collectively engaged in marketing by forming a producer company. Since, this being a new venture only five per cent of goats were supplied through this channel. This Producer Company gathers goats from its members and engages in selling of goats with only five per cent commission to the society and ten per cent as slaughter charge. This channel offers maximum profit share for goat farmers (85.00%). The prices were fixed based on the live body weight of the goats. This channel also ensures a less price at the consumer level also. This supply chain channel proved to be the best for farmers as well as the consumers. Eg. In Kannur, around 2000 goat farmers have registered under goat Producer Company established in 2015.

## CONCLUSIONS

To conclude, the study identified that majority of the goat farmers have land holding less than 25 cents and major players in goat rearing were women. Farmers mostly rear goat for meat purpose and other sources income includes selling of goat dung (67%) and all other ways of returns were utilized only by 18 to 7 per cent of the farmers. The study also throws light on major players involved in goat trades such as traders, commission agents, butchers etc. The study also elaborated various forms of supply chains involved in goat marketing and found out channel 5, which involved the goat producer company as the best supply chain for both goat farmers as well as consumers as it provide maximum profit to goat farmers and moreover, provide cheapest chevon at the consumer level.

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## CONFLICT OF INTEREST

No potential conflict of interest was reported by the au-

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## AUTHORS CONTRIBUTION

The research was designed jointly by Bimal Puthuparampil Bashir and R Thirupathy Venkatachalapathy and Bimal Puthuparampil Bashir conducted the research. All the authors have read and approved the final manuscript

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