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Socio-economic status and farming practices of goat farmers in the Kandi area of Hoshiarpur district, Punjab

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Abstract

Goat farming plays a crucial role in the integrated farming systems of the Kandi region of Punjab, particularly for small and marginal farmers who rely on it as a primary source of livelihood and nutritional security. This study aimed to evaluate the socio-economic status, management practices, and income dependency associated with goat farming in the region. Data were collected through structured interviews with 50 randomly selected goat farmers across different villages of the Kandi belt. The results revealed that the majority of the goat farmers (48%) belonged to the 30-50 years age group, reflecting an active and economically productive population engaged in livestock rearing. Most households comprised medium-sized families (3-6 members), providing adequate labor for small-scale goat farming. Educational attainment among the respondents was generally low, with only 4% being graduates, which may affect the adoption of improved and scientific farming practices. Goat farming emerged as a significant economic activity, contributing more than 50% of household income in nearly half of the surveyed households. Flock sizes were mostly small to medium, with 48% maintaining 10-30 goats. Mixed breeds were predominant (52%), and semi-pucca housing was the most common shelter type (62%), indicating moderate investment in infrastructure. Breeding was largely based on the use of own bucks, suggesting closed flock systems, while the sale of animals was primarily conducted directly from the farm, reflecting the lack of formal market channels. Feed costs accounted for the largest share of farming expenditure, underscoring the economic burden of nutritional management in goat production. The study highlights key constraints such as limited access to veterinary services, inadequate marketing infrastructure, and low educational levels among farmers. The findings suggest targeted interventions in breed improvement, veterinary services, and market linkages to enhance productivity and profitability.

Keywords: Goat farming, Kandi area, socio-economic profile, feed cost, Punjab

Introduction

The Kandi region of Punjab, situated in the sub-mountainous zone, is characterized by fragmented landholdings, undulating topography, and predominantly rain-fed agriculture. These factors contribute to reduced fodder production and limited agricultural productivity, ultimately constraining the socio-economic development of rural households (NAIP, 2014) [9]. In such resource-constrained ecosystems, livestock—particularly small ruminants—play a pivotal role in supplementing household income. In recent years, goat farming has gained prominence in the Kandi area as a sustainable livelihood strategy, owing to its multiple advantages such as low initial investment, minimal land requirements, and efficient feed conversion ability (Singh *et al*., 2024) [12]. Additionally, the region's forested landscape provides an abundant supply of tree fodder, making goat rearing a viable option even in the face of fodder scarcity. Compared to large ruminants like cattle and buffaloes, goats require less feed and water, yet offer relatively higher economic returns per unit of investment (Singh *et al*., 2019) [13].

Despite these advantages, the productivity of goats in the region remains suboptimal, primarily due to inadequate management practices, low genetic potential, and poor access to veterinary healthcare services (Sharma and Singh, 2018) [11]. These constraints hinder the realization of the full potential of goat farming in the region. To address these challenges, it is essential to conduct a systematic assessment of the socio-economic status, demographic characteristics, and management practices of goat farmers in the Kandi region. This study aims to fill this knowledge gap by analyzing the profiles of goat-rearing households, identifying critical bottlenecks, and providing recommendations for improving goat productivity and enhancing rural livelihoods.

Materials and Methods

The present study was conducted in Hoshiarpur district, located in the north-eastern part of Punjab, India. Hoshiarpur is a predominantly rural district falling under the sub-mountainous Kandi belt, known for its undulating terrain, rain-fed agriculture, and agro-forestry systems. The region faces frequent water scarcity and low fodder availability, yet remains suitable for small ruminant rearing due to its hilly landscape and forest cover, which supports browsing livestock like goats. Agriculture and allied activities, particularly animal husbandry, constitute a primary source of livelihood for the rural population in this

area.

To understand the socio-economic and management profile of goat farmers in the region, a structured questionnaire-based survey was conducted. A stratified proportionate random sampling technique (Kothari, 2004) [6] was employed to ensure representation from different parts of the Kandi region. A total of 50 goat farmers were randomly selected from various villages across Hoshiarpur district for the survey. The data collection instrument consisted of a pre-tested interview schedule, designed to capture detailed information on demographic characteristics (age, gender, caste, education, family size), management practices (breed type, housing system, breeding buck source), institutional access (availability of veterinary services), economic aspects (major sources of expense, sale channels, income dependency), and herd details (herd size and structure). Primary data were collected through face-to-face interviews, and the collected data were analyzed using descriptive statistical tools, including frequency and percentage distribution, to interpret trends and patterns among the sampled population.

Results and Discussion

Socio-Economic Characteristics

The socio-economic profile of the respondents revealed that 90% were male, indicating a male-dominated pattern of decision-making in goat farming in the Kandi region of Punjab. This observation aligns with the findings of Bhagat *et al*. (2023) [2] and Dhaliwal *et al*. (2022) [4], who also noted significant male involvement in goat rearing. However, it contrasts with studies by Mallikarjuna *et al*. (2021) [8] and Tanwar *et al*. (2008) [14], which highlighted the active and critical participation of rural women in livestock farming. A significant portion (48%) of respondents were in the 30-50 years age group, representing a relatively young and economically active population engaged in goat rearing. This trend is consistent with earlier studies by Mallikarjuna *et al*. (2021) [8] and Bhikya *et al*. (2021) [3], which observed similar age group dominance in goat farming practices. Regarding education, 54% of farmers had studied up to the 10th standard, while only 4% were graduates, indicating limited access to higher education. These findings are in line with reports by Mallikarjuna *et al*. (2021) [8], Bashir and Venkatachalapathy (2017) [1], and Tanwar *et al*. (2008) [14], but contrast with Reddy *et al*. (2017) [10], and Gamit *et al*. (2020) [5], who reported a higher percentage of literate goat farmers. Family size ranged predominantly between three to six members (66%), which is generally sufficient for managing small-scale livestock operations. Caste-wise, 56% of the respondents belonged to the General category, followed by 22% from Backward Classes (BC), 20% from Scheduled Castes (SC), and 2% from Scheduled Tribes (ST), reflecting social diversity in goat farming communities.

Income Dependency and Herd Size

In nearly half of the households (48%), goat farming contributed to more than 50% of the total income, underscoring its economic significance as a primary livelihood activity. This highlights the role of goat rearing in enhancing income security, particularly in semi-arid and resource-constrained regions. These findings align with the conclusions drawn by Mallikarjuna *et al*. (2021) [8] and Reddy *et al*. (2017) [10]. Flock size data showed that 48% of farmers maintained 10-30 goats, and 38% had smaller flocks of fewer than 10 animals. This confirms that goat farming in the region continues to be a smallholder enterprise. The limited scale of operations suggests constraints in land, capital, or access to technical support, which may hinder the expansion of herd size and productivity.

Breeding and Management Practices

In terms of breed composition, 52% of respondents reared mixed breeds, 32% kept non-descript animals, and 16% had pure breeds animals. The preference for mixed breeds may reflect a combination of adaptability, traditional knowledge, and market demands. However, the lack of access to improved germplasm and absence of structured breeding programs remain a concern. Housing infrastructure was predominantly semi-pucca (62%), indicating moderate investment levels by farmers in animal shelters. This type of housing offers basic protection but may not adequately support optimal health and productivity. Access to veterinary services was inconsistent, with only 38% of farmers having regular access, while 44% received services occasionally. This underscores the need for improved veterinary outreach and infrastructure in rural areas. Kumar and Dige (2017) [7] also identified these as major constraints, suggesting that addressing them could significantly enhance goat production performance. Breeding practices revealed that 70% of respondents used their own bucks, indicating closed flock systems. While this helps maintain herd biosecurity, it raises concerns about genetic diversity and the risk of inbreeding. Sale of animals was primarily conducted directly from the farm (96%), pointing to the absence of organized market linkages or cooperative structures. The majority of farmers (70%) reported feed as the most significant expense, followed by costs related to medicines and farming inputs. This highlights the economic pressure of feeding costs in goat farming and the urgent need for dissemination of cost-effective and locally adaptable feeding strategies. Studies by Bashir and Venkatachalapathy (2017) [1] and Mallikarjuna *et al*. (2021) [8] have also emphasized the importance of nutritional management as a critical determinant of productivity and profitability.

Overall, the study indicates that while goat farming remains a key livelihood activity in the Kandi region of Punjab, it is challenged by limited education, small-scale operations, irregular veterinary support, and unorganized market systems. Addressing these limitations through farmer training, policy support, and infrastructure development is essential for enhancing productivity, profitability, and sustainability in the sector.

Table 1: Socio-Demographic and Managemental Profile of Goat Farmers (n = 50)

	Category	Frequency	Percentage (%)
Gender	Male	45	90.00%
	Female	5	10.00%
Age Group	Less than 30	12	24.00%
	30 to 50	24	48.00%
	Greater than 50	14	28.00%
Education Level	Illiterate	2	4.00%
	Up to 10th standard	27	54.00%
	11 - 12	19	38.00%
	Graduate and above	2	4.00%
Family Members	Less than 3	8	16.00%
	Between 3 and 6	33	66.00%
	6 and above	9	18.00%
Caste Category	General	28	56.00%
	BC	11	22.00%
	SC	10	20.00%
	ST	1	2.00%
Major Source of Expense	Feed	35	70.00%
	Medicine	11	22.00%
	Farming	2	4.00%
	Both (Feed & Medicine)	2	4.00%
Bucks Used for Breeding	Own Buck	35	70.00%
	From Other Farm	15	30.00%
Sale and Purchase Method	Directly at Farm	48	96.00%
	Various Mandi	2	4.00%
No. of Goats Reared	Less than 10	19	38.00%
	10 - 30	24	48.00%
	30 - 100	7	14.00%
	Greater than 100	0	0.00%
Breed Type Maintained	Non-descript	16	32.00%
	Pure Breed	8	16.00%
	Mixed	26	52.00%
Housing Type	Kutcha	4	8.00%
	Pucca	15	30.00%
	Semi-pucca	31	62.00%
Access to Veterinary Services	Regular	19	38.00%
	Occasional	22	44.00%
	None	9	18.00%
Income from Goat Farming	<25% of Total Income	24	48.00%
	25-50% of Total Income	18	36.00%
	>50% of Total Income	8	16.00%

Conclusion

The study highlights the smallholder nature of goat farming in the Kandi area, with moderate income dependency and limited resource input. There is a need for structured interventions like breed improvement, enhanced veterinary services, farmer training programs, and improved market access to support sustainable goat farming in this fragile ecosystem.

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