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Socio-economic status of selected dairy farmers in Thrissur district of Kerala

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Abstract
A comprehensive investigation into the socio-economic status of cattle farmers in Thrissur district involved the selection of twenty-five cattle farms, each with a minimum of ten crossbred cattle. Data analysis revealed that the mean average age of these farmers was 43.83 years, with the majority falling within the middle-age category. Men dominated this profession, accounting for 72% of the participants. In terms of educational background, 48% had completed primary school. Interestingly, dairying served as a subsidiary occupation for 92% of the farmers. The average herd size in these selected dairy farms was 12.08 animals. The farmers typically utilized their own land for constructing farms and cultivating fodder, with a mean average of 4.14 cents and 16.52 acres, respectively. Additionally, approximately 40% of dairy farmers employed milking machines for the milking process.

Keywords: Socio-economic status, dairy farmers, Thrissur district

Introduction
The livestock sector in Kerala is highly prominent and ranks among the fastest-growing segments of the rural economy. As per the 20th livestock census conducted in 2019, the state boasts a livestock population of 29.09 lakhs, with a cattle population of 13.42 lakhs. Notably, crossbred cattle make up 94% of the state's cattle population, contributing to an average daily milk production of 10.22 litres.

The dairy farmers of Kerala hold a prominent position within the region's agricultural framework. Known for its abundant green landscapes, rich cultural diversity, and primarily agrarian economy, Kerala heavily relies on dairy farming which plays a pivotal role in the lives of numerous households, offering essential economic support and meeting vital nutritional needs.

Thrissur district, located in the central part of Kerala, is known for its rich agricultural heritage. It boasts a mix of small-scale and commercial dairy farming operations, with varying levels of socio-economic conditions among its dairy farmers. Understanding the socio-economic status of these dairy farmers is essential for policymakers, agricultural experts, and stakeholders to formulate targeted interventions and strategies that can improve the well-being of this important segment of the population.

The socio-economic status of dairy farmers in Thrissur district is influenced by a myriad of factors. These encompass the size of land holdings, the accessibility of resources and technology, the fluctuations in the market, government policies, levels of education, and the presence of social support systems. Moreover, environmental factors like climate and the availability of natural resources contribute significantly to the dynamics of the dairy industry in this locality.

In this exploration of the socio-economic status of dairy farmers in Thrissur district, we will delve into various aspects, including income levels, living conditions, access to healthcare and education, agricultural practices and challenges faced by these farmers. By examining these dimensions, we aim to gain a comprehensive understanding of the conditions in which dairy farmers operate and identify opportunities for growth and development within this sector.

Through this investigation, we hope to shed light on the experiences and challenges faced by Thrissur's dairy farmers, ultimately contributing to informed policies and initiatives that can empower them economically and enhance their overall quality of life.

Materials and Methods
The study was conducted in Thrissur district among twenty-five dairy farmers owning a minimum of 10 dairy animals.

Data were collected using pretested structured interview schedule during the period. The information collected was statistically analysed and interpreted.

Results and Discussion
Age of dairy farmers
Table 2. Presents a revealing insight into the age demographics of dairy farmers across 25 selected dairy farms in Thrissur district. The findings indicate that the mean average age stands at 43.83 years, unequivocally signifying that the dairy farmers in the region predominantly belong to the middle or older age categories. The proportion of young individuals engaging in dairy activities remains notably low, with high proportion of traditional farmers engaged in dairying. These findings align seamlessly with the observations made by George [4], further emphasising the presence of traditional farmers in the dairy farming domain.

Gender of dairy farmers
Table 1. Provides a comprehensive overview of the gender distribution among selected dairy farms. The data reveals that 72% of these farms were led by males, while 28% were under female leadership. These results underscore the prevalent trend where males assumed the leading role in majority of the farms. These findings align with the observations made by George [4] and Wijethilaka [11], both of whom noted a similar pattern in their studies conducted in Kerala and Sri Lanka, respectively. They observed that in Kerala and Sri Lanka, the majority of cattle farmers were male, reaffirming the predominance of male leadership within the dairy farming sector.

Marital status
Table 1. Depicts the marital status of the twenty-five selected dairy farmers. The data highlights that a significant majority, accounting for 92% of the farmers, were married, while a smaller proportion, merely 8%, remain unmarried. Furthermore, the table unveils that the majority of farms boasts a high level of family participation. These current findings align harmoniously with the observations put forth by George [4], reinforcing the prevalence of married individuals among dairy farmers and emphasizing the substantial degree of family involvement within the sector.

Educational status
Table 1. Provides an overview of the educational qualifications of the selected dairy farmers. The overall trend illustrates that the majority of farmers possess educational backgrounds at the primary and secondary levels. This prevailing pattern holds true regardless of animal husbandry practice, indicating that the dairy sector tends to attract individuals with primarily primary-level education. These findings shed light on a notable aspect - the dairy industry's challenge in drawing highly educated individuals into its sphere. The substantial presence of individuals with primary or secondary education may potentially impede efforts to enhance extension services within the sector. These current findings resonate with the observations made by George [4], underlining the consistent trend of primary and secondary-level education among dairy farmers.
In a parallel study, Sasidharan [10] reported congruent findings, revealing that a notable 56.6% of dairy farmers in Kerala possessed educational qualifications at the secondary school level. Similarly, Dutta [3] conducted a study in the Indian Sundarbans region, which unveiled that the average education level of respondents was predominantly at the primary education tier. These observations harmoniously align with the current study's findings.

Major occupation
Table 1. Presents an insight into the primary occupation status of the selected dairy farmers. Strikingly, it discloses that an overwhelming 92% of the selected farmers identified dairying as their primary occupation. Furthermore, the data indicates that the reliance on dairying as the main occupation tends to escalate as farm size increases. This trend suggests that for many traditional farmers, dairying has become an integral part of their way of life. These observations resonate with the findings of George [4], reinforcing the notion that dairying holds significant importance as the primary occupation among farmers.

Subsidiary occupation
Upon careful examination of the data concerning subsidiary occupations, it becomes evident that a significant majority, totalling 64% of the selected dairy farmers, do not engage in any supplementary occupation (Table 1). Conversely, 20% of these farmers have a business background recorded as their subsidiary occupation. The findings of the current study are in concordance with the research conducted by Maria Poulose and Veera Kumaran [7] who observed that dairying was the predominant subsidiary occupation among the respondents in Palakkad district.

Experience in dairying
Table 2. Presents a comprehensive overview of the experience levels among dairy farmers. The results reveal that the mean experience stands at 21.08 years. Notably, this study reports that a substantial proportion of dairy farmers boast more than two decades of experience in the dairy sector, and a significant number among them adhere to traditional farming practices. These findings seamlessly align with the observations made by Patil[8] who conducted a study on dairy farmers in Kerala. Their research highlighted that a remarkable 86% of dairy farmers in the region possessed over a decade of experience, reaffirming the enduring commitment and expertise of farmers within the dairy industry.

Purpose of cattle rearing
Table 1. Identified that the predominant purpose among the selected dairy farmers, encompassing a substantial 88%, is self-employment, with an additional 12% deriving additional income from their dairy activities. These findings closely resonate with the observations made by George [4], affirming that dairy farming often serves as a pivotal avenue for self-employment. In contrast, Bamini [1] reported a distinct trend among farmers in the Kilinochchi district of Sri Lanka, where the primary purpose of rearing cattle was for the quality of milk and the utility of manure.

Details of herd size
Table 1. Provides detailed insights into the composition of cattle herds across different farms, revealing a consistent pattern of distribution among various cattle categories. The average herd size in the selected dairy farms was found to be 12 in the present study. The collective herd composition across all farms exhibits the following categories: milk animals (52.81%), dry cattle (11.01%), heifers (12.81%),

male calves (3.82%), female calves (19.10%) and bulls (0.45%). Similar observations were reported by George [4], that overall herd size was 12 in dairy farms of Kerala region.

Land for farm building
In Table 2. The type of land utilised by farmers for constructing animal sheds is elucidated. Remarkably, the data indicates that 100% of the farmers, regardless of their farm size, utilized their own land for the construction of these vital farm structures. The mean average of land dedicated to farm building construction in the present study was 4.14 cents. This noteworthy discovery aligns seamlessly with the findings of Sasidharan [10], who also reported a parallel trend among dairy farmers in Kerala. Their study revealed that the practice of utilizing personal land for constructing farm buildings was consistently prevalent among farmers in the region. Roy [9] observed that a substantial majority of respondents, comprising 48 percent, possessed land holdings ranging from 2 to 5 acres, a trend that closely parallels the findings of the present study.

Land for fodder cultivation
Table 2. Showed the details of land used for fodder cultivation. In the current study, farms allocate an impressive

mean average of 16.52 acres of land, whether owned or under lease, for the dedicated purpose of both pure cropping and intercropping aimed at fodder cultivation. This was in agreement with the observation of George [4].

Farming equipment
Table 3. Meticulously outlines the level of farm equipment utilized across different farms. The current study reveals a notable distribution, with 40% of individuals utilising milking equipment and the remaining 60% opting for pressure washers. It is noteworthy that all selected farmers incorporated milking cans and rubber mats into their farm operations. The findings pertaining to mechanization levels in these farms hold paramount significance, as various authors have underscored the pivotal role of mechanization in dairy farming. This illustrates the pressing need for heightened awareness and accessibility to these advanced technologies and equipment, a necessity advocated by the Government of Kerala, KPP [5], which can be effectively facilitated through direct farm education initiatives. Hazarika [6] also recognized mechanization as a crucial factor contributing to the enhancement of crop yields. These observations are in agreement with the present study.

Table 1: Distribution of dairy farmers based on gender, marital status, educational status, major occupation, subsidiary occupation, purpose of cattle rearing and physiological status in Thrissur district

Social characteristic	Category	Frequency percentage
Gender	Male	72
	Female	28
Marital status	Married	92
	Unmarried	8
Educational status	Illiterate	12
	Primary	48
	Middle	4
	Secondary	8
	Senior secondary	20
	Graduate	8
	Post - graduate	0
	Professional	0
Major Occupation	Agriculture	4
	Dairying	92
	Business	4
Subsidiary occupation	Agriculture	8
	Driving	4
	Goat husbandry	4
	Business	20
	Nil	64
Purpose of cattle rearing	Self-employment	88
	Additional income	12
Physiological status	In Milk	52.81
	Dry cow	11.01
	Heifer	12.81
	Male calf	3.82
	Female calf	19.10
	Bull	0.45

Table 2: Distribution of dairy farmers based on age, experience, Land for farm building and Land for fodder cultivation in Thrissur district

Social characteristic	Mean ± SE
Age group (In years)	43.84±1.146
Experience (In years)	21.08±1.20
Land for farm building (In cents)	4.14±0.27
Land for fodder cultivation (In acre)	16.52±2.11

Table 3: Distribution of dairy farmers based on farming equipment in Thrissur district

Farming Equipment	Yes	No
Milking machine	40	60
Pressure washer	60	60
Chaff cutter	12	88
Milk cans	100	0.0
Rubber mat	100	0.0
Vehicles for farm purpose	32	68

Conclusion

Based on the findings of the current study, it can be concluded that the majority of dairy farmers in Thrissur district were middle-aged males, with an average age of 43.83 years. Furthermore, a significant proportion, 92%, of these farmers were married. The educational level of most farmers was at the primary level, and a majority of them had over 20 years of experience in cattle farming. However, their annual income from animal husbandry was relatively low. On average, the selected farms had a herd size of 12 animals. It is worth noting that all selected dairy farmers used their own land for constructing farm buildings and cultivating fodder. The mean average land holding for building and fodder cultivation was 4.14 cents and 16.52 acres, respectively. Additionally, approximately 40% of dairy farmers utilized milking machines for the milking process.

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