

A MULTIVARIATE STATISTICAL ANALYSIS ON DAIRY FARMER'S IN CERTAIN GEOGRAPHICAL AREA

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ABSTRACT

The present study is conducted on 120 members of primary milk marketing co-operative societies selected from Vazhakulam Block Panchayath of Ernakulam District of Kerala. A well-structured questionnaire cum interview schedule is used for data collection. The major problems faced by the farmers are divided into three main heads namely Economic Constraints, Marketing Constraints and Veterinary Constraints. The findings has revealed that 66.7% of the farmers incurring more than Rs. 8,000 for animal maintenance and 55.83% farmers are getting procurement price of less than Rs. 35/litre. It is observed from the study that continues rise in the price of feed is ranked first and it is followed by huge daily expense and low profit. The major marketing problem faced by the farmers is less procurement price of milk and it is followed by lack of cold storage facilities in the societies. Further lack of veterinary facility at the doorstep at the time of emergency is the major veterinary problem faced by the farmers. It is suggested that the societies should increase the subsidy of cattle feed to the farmers and arrangement of proper veterinary facilities, and increase the procurement price of milk according to the increased cost of production of milk. Arrangement of proper cold storage facilities will avoid the spoilage of milk produced by the members.

Keyword:- Dairy co-operative, Economic constraints marketing constraints, veterinary constraints.

I. INTRODUCTION

India is the highest milk producer in the entire globe. The Indian Dairy Industry has achieved this strength of a producer - owned and professionally - managed cooperative system, despite the facts that a majority of dairy farmers are illiterate and run small and marginal operations and for many farmers, selling milk is their sole source of income. These farmers are formed cooperative societies for attaining various needs relating to their farming.

Milk marketing society is a society organised with the object of helping dairy farmers to market milk through a collective network. Most of the dairy farmers are situated in rural areas. But the market is spread over in various parts of the country including towns and urban areas. The farmers initially find it difficult to market their products locally. These societies are formed to collect the milk on a large scale basis and supply the products at the regional level or district level. In Kerala MILMA undertakes the collection of Milk from the farmers and distribute to the consumers all over the state.

There are three regional cooperative milk producer's unions operating at present. They are Travancore Regional Cooperative Milk Producer's Union (TRCMPU), Ernakulam Regional Co-operative Milk Producers Union (ERCMPU) and the Malabar Regional Co-operative Milk Producer's Union (MRCMPU).

The single window system as advocated in the Operation Flood has also been diligently followed by the MILMA providing not only transportation twice a day round the year to collect the milk from the societies but also other support systems like supply of subsidised cattle feed, veterinary care, support for fodder development activities, organised training in all aspects of cattle management and society management. Thus a dairy farmers get their entire requirements under one roof. Apart from these services given by the society, farmers are facing lots of problems relating to cattle rearing, production and marketing of milk. Government taking necessary steps and schemes for the enhancement of farmers but these are not enough for the farmers because of continues increase in

the price of feed, low procurement price given by the society, high cost of veterinary medicines, high daily expenses for cattle rearing cost of etc. Thus, in this paper an attempt has been made to identify the problems that faced by the milk producing farmers of MILMA in Vazhakulam Block Panchayath of Ernakulam District, Kerala.

II. REVIEW OF LITERATURE

In [1-2] have found that lack of availability of green fodder, low productivity of animal, low price for liquid milk and lack of veterinary facilities are the major problems faced by farmers in milk production.

In [3-5] have ascertained that lack of training facilities, unavailability of Veterinary Service, irregular supply of water, high cost of fodder, lack of cold storage facility, and poor knowledge about Artificial Insemination are the major constraints in milk production.

In [6-8] has found that lack of coordination among small scale farmers, dominance of informal middlemen are the problems in milk production and marketing.

In [10-11] have revealed that lack of fodder, scarcity of veterinary and diagnostic services, lack of technological awareness are the common issues of dairy farmers in India.

In [12-14] have examined that the major problems faced by the farmers are lack of infrastructural facilities, lack of proper information system, and lack of veterinary care.

In [15-16] reveal that majority of the milk producers are handled by unorganized sector. Involvement of middleman, lack of infrastructural facilities for collection, storage, transportation and processing are the major problems in milk marketing.

In [17] have concluded that marketing through co-operative societies are more profitable though, the problem of transportation, delay in payments, high maintenance cost are found to be main problems faced by different sections of producers.

In [18] find that involvement of intermediaries, lack of bargaining power of farmers, lack of infrastructural facilities for collection, storage, transportation and processing are the major problems which affect the prices received by the producers.

In [19] find that members of Dairy Cooperatives earned more income than non-members of the society. The employment created for members was significantly more compared to non-members in the study area. Thus, the dairy cooperatives have contributed in generating more income and employment opportunities to the dairy farmers.

In [20] reveal that the factors such as sex, age, marital status, education, family size and income have influenced the level of attitude of the members. The study also suggests that regular supply of green fodder at subsidized rate, arrangement of bank loan at lesser rate of interest, proper education and training; proper shelter and sanitary facilities will improve the performance of dairy farming and enhance milk production [25]-[28].

From the literature review, it is observed that previous studies have been carried out on finding problems of dairy farmers in one or two aspects[29][30]. Not many studies have been carried out to find out the problems of dairy farmers in Vazhakulam Block Panchayath of Ernakulam District of Kerala on multi-dimensional aspects.

Hence, in this article an effort has been made to find out the major problems faced by the dairy farmers in economical, veterinary and marketing of milk produced.

A. Statement Of Problem

Dairy farmers are not able to sell their milk for the cheapest price given by the society because of high production cost. Irrespective of high production cost farmers are facing lots of problems like huge investment for cattle rearing, less availability of feed in the market, continues rise in the price of feed, lack of veterinary facility, less milk production, less procurement price climate related issues, irregular milk procurement, lack of medical insurance, non-availability of counselling etc... Hence, they are not able to continue in dairy farming and forced to close their dairy farming.

B. Objectives

- To ascertain the demographic and dairy management profile of farmers in the study area.
- To find out the problems faced by dairy farmers in Vazhakulam Block Panchayath of Ernakulam District, Kerala.

C. Scope of The Study

This study will be useful to understand about the socio-economic conditions of the farmers, especially in the area of residence, age, educational qualification, family size, milk production, average cost of maintenance and price offered by the dairy co-operatives. This study analyses the problems of farmers under three heads namely economic, marketing and veterinary constraints and providing suggestions for better performance of dairy co-operatives for the enhancement of farmer's socio-economic conditions.

III. RESEARCH METHODOLOGY

A. Source of Data

The present study is mainly depended upon primary data. This data were collected by interviewing dairy farmers. However, secondary data was obtained from Ernakulam Regional Co-operative Milk Producers Union (ERCMPU), Vazhakulam Block Panchayath Administrative Office, Journals, Newspapers, Articles and books.

B. Sampling Design

Totally there are 14 block Panchayath in Ernakulam district namely Angamaly, Alangad, Edapally, Koovappady, Kothamangalam, Mulanthuruthy, Muvattupuzha, Palluruthy, Pampakuda, Parakkadavu, Paravur, Vadavucode, Vazhakulam and Vypin. Due to livelihood pattern and Agricultural based area Vazhakulam block were selected. At present 23 primary level societies are functioning in Vazhakulam block panchayath of Ernakulam district. Total number of farmers are 827. Among these farmers, 120 farmers were selected for the detailed study. Sample size was taken from every dairy co-operative on the basis of using Simple Random Sampling.

C. Tools of analysis

Percentage Analysis and Weighted Average Ranking Method have been extensively used in the process of analysis and interpretation of data.

D. Period of study

The research study covers 5 months from August to December 2019.

E. Limitations of The Study

The present study is subjected following limitations

1. Only the dairy farmers who are members in Vazhakulam block Panchayath is selected for the study. Therefore, the findings of the study may not be generalized to other area of the district.
2. While answering to the interview schedule many rural illiterate farmers give the information from their memory, so it cannot prove they are hundred percentage accurate.

F. Significance Of The Study

The result of the study will be useful to Milma Co-operative Society and farmers. The study assists, Milma society to understand the problems faced by farmers. Accordingly, they may offer necessary assistance to the farmers to discuss the major problems faced by them and to reap maximum benefits from the Milma society.

IV. ANALYSIS AND INTERPRETATION

A. Profile Characteristics of Dairy Farms

About the gender respondents 87 (72.5) members are male and 33 (27.5%) are female. Thus, the majority of the farmers are male.

Regarding the area of residence 18 (15.00) members are live in Urban area; 30 (25%) are live in semi-urban area and the remaining 72 (60.00). Members are live in rural area. Thus, majority of the members reside in rural area.

In respect to age of the respondents, 12 (10.00) members are within the age of 40 years; 66 (55.00) Members age ranges between 41 and 60 years and the remaining 42 (35.00) members are above the age of 60 years. Thus, majority of the member's age ranges from 41- 60 years.

About the educational qualification 18 (15.00) members are illiterate; 72 (60.00) members are educated up to SSLC; 21 (17.50) members have completed H.Sc and the remaining 9 (7.50) are Under Graduate members. Thus, majority of the members are educated up to SSLC.

Regarding marital status 115 (95.8%) members were married and 5 (42%) were unmarried. Thus, majority of the respondents are married.

About the family size of the respondents 40 (33.33) members have up to 4 members in their family; 70 (58.30) members have 5 – 6 members in their family and the remaining 10 (8.40) have above 6 members in their family. Thus, the majority of the members have 5-6 members in their family.

In respect of monthly income 42 (35.00) members are earning up to Rs. 5,000. 48 (40.00) members income ranges between Rs. 5,001 and Rs.10,000; 19 (15.80) members income ranges between Rs. 10,001 and Rs. 15,000 and the remaining 11 (9.20) earning above Rs. 15,000. as monthly income. Thus, most of the farmers income ranges from Rs. 5,001 – Rs. 10,000 per month.

Regarding the number of milk animals owned by 78 (65.00) members have up to 3 animals; 28 (23.33) members have 4 to 6 animals; 14 (11.70) members have more than 6 animals in their dairy farm. Thus, majority of the members held up to 3 animals in their dairy farm.

About the type of shed used for cattle rearing 4 (3.30) members provide open shed to their dairy animals, 20 (16.70) provide cadjan shed, 72 (60.00) provide cement sheet shed and the remaining 24 (20.00) members provide concrete shed to their dairy animals. Thus, majority of the members provide cement sheet shed their dairy animals.

In respect to quantity of milk production 24 (20.00) less than 10 litres of milk per day, 54 (45.00) members get 11 to 20 litres of milk per day, and the remaining 42 (35.00) members get more than 20 litres of milk per day. Thus, most of the members produce 11 to 20 litres of milk per day.

About the average cost of animals maintenance 40 (33.33) members spend less than Rs. 8,000 per month and the rest 80 (66.70) members spend more than Rs. 8,000 per month. Thus, majority of the members spend more than Rs. 8,000 per month for animal maintenance.

Regarding the average milk rate per litre 67 (55.83) members get less than Rs. 35 per litre and the rest 53 (44.20) members get more than Rs. 35 per litre. Thus, majority of the members get less than Rs. 35 per litre for the milk supplied to the co-operative society.

TABLE I Profile Characteristics of Dairy Farms

Variables	No. of Farmers	Percentage	
Gender	Male	87	72.5
	Female	33	27.5
		120	100.0
Area of Residence	Urban	18	15.0
	Semi Urban	30	25.0
	Rural	72	60.0

Age		120	100.0
	Up to 40	12	10.0
	41 – 60	66	55.0
	Above 60	42	35.0
		120	100
Educational Qualifications			
	Illiterate	18	15.0
	Up to SSLC	72	60.0
	H.Sc	21	17.5
	Under Graduate	9	7.5
		120	100
Marital Status			
	Married	115	95.8
	Single	5	4.2
		120	100
Size of Family			
	Up to 4	40	33.3
	5 – 6	70	58.3
	Above 6	10	8.4
		120	100
Milk Production			
	Up to 10	24	20.0
	11 – 20	54	45.0
	Above 20	42	35.0
		120	100
Average cost of animal maintenance			
	Up to 8,000	40	33.3
	Above c 8,000	80	66.7
		120	100
Average milk rate per litre			
	Up to 35	67	55.83
	Above 35	53	44.2
		120	100

Table 1 – Shows the demographic profile of members of Milma in Vazhukulam block Panchayath in Ernakulam district of Kerala.

B. Economic Constraints

TABLE II Weighted Average Ranking Method – Economic Constraints perceived by the farmers in cattle rearing

Sl.No.	Factors	Total Score	Main Score	Rank
1	Huge Investment	550	4.58	IV
2	Rise in the price of feed	591	4.92	I
3	Low profit	573	4.77	III
4	Delay in payment of milk	478	3.98	VI
5	Low provision of bonus	504	4.20	V
6	Inadequate loan facility	456	3.80	VII
7	High daily expense	584	4.86	II

Economic constraints faced by the farmers are shown in table 2. The table clearly expresses the major economic problem is continues rise in the price of feed with a mean score of 4.92 (rank 1st), followed by high daily expenses with a mean score of 4.86 (rank 2nd), low profit with a mean score 4.77 (rank 3rd), huge investment with a mean score 4.58 rank (4th), Low provision of bonus with a mean score 4.20 (rank 5th), delay in payment of milk supplied by farmer with a mean score 3.98 (rank 6th), and inadequate loan facility with a mean score 3.98 (rank 7th).

C. Marketing Constraints

TABLE III Weighted Average Ranking Method – Marketing Constraints perceived by the farmers

Sl.No.	Factors	Total Score	Main Score	Rank
1	Less procurement price given by Milma	581	4.84	I
2	Non availability of collection centre	248	2.06	VI
3	Irregular milk procurement	336	2.80	V
4	Rejection of milk	233	1.94	VII
5	No trustworthiness of intermediaries	401	3.34	III
6	Lack of cold storage facilities	427	3.55	II
7	Lack of promotional efforts taken by society	593	3.29	IV

Marketing constraints faced by the farmers are shown in table 3. The overall analysis shows that less procurement price for the milk is the most important problem with a mean score of 4.84 (rank 1st) followed by lack of cold storage facility with a mean score of 3.55 (rank 2nd), Non trustworthiness of intermediaries with a mean score 3.34 (rank 3rd), Lack of promotional efforts taken by the society with mean score 3.29 (rank 4th), irregular milk procurement with mean score 2.80 (rank 5th), Non availability of collection centre with a mean score of 2.06 (rank 6th) and rejection of milk by the society with mean square 1.94 (rank 7th). The findings imply that price offered for the milk is the major problem of milk marketing.

D. Veterinary Constraints

TABLE IV Weighted Average Ranking Method –Constraints in Veterinary Care

Sl.No.	Factors	Total Score	Main Score	Rank
1	Lack of veterinary facility at the doorstep at the time of emergency	533	4.44	I
2	High cost of treatment	567	4.22	II
3	Non availability of medicines	463	3.85	III
4	Non availability of vaccination facility	415	3.45	IV
5	Lack of knowledge, about diseases	401	3.34	V

The problems relating to veterinary care are shown in table 4. The major problem relating to veterinary is lack of veterinary facility at the door step at the time of emergency with a mean score of 4.44 (rank 1st) followed by high cost of treatment with mean score 4.22 (rank 2nd), Non availability of medicines with mean score 3.85 (rank 3rd), non-availability of medicines with mean score 3.85 (rank 4th) and lack of knowledge about diseases with a mean score of 3.34 (rank 5th). It reflects that lack of veterinary care is the major problem in veterinary care.

E. Findings of the Study

- Regarding the gender it is found that majority of the farmers are male respondents.
- It is found that majority of the farmers reside in rural area.
- It is observed that majority of the respondents are in the age group of 41 to 60 years.
- In respect of educational qualification majority of the farmers have studied up to S.S.L.C.
- Majority of the respondents are married and size of the family ranges between 5-6 members.
- It is found that majority of the farmers are producing an average of 11-20 litres per day.

- The study reveals that majority of the farmers incur more than Rs. 8,000 per month for animal maintenance.
- From the analysis, it is observed that majority of the farmers are getting up to Rs. 35/litre for the milk supplied to the society.
- Further it is found that, among the 7 factors relating to Economical constraints faced by the farmers “continues rise in the price of feed” is ranked first. It is followed by “Huge daily expense”. Low profit is ranked third.
- It is observed from the study that, among the seven marketing constraints faced by the dairy farmers “Less procurement price” is ranked first. It is then followed by “Lack of cold storage facilities”. “No trustworthiness of intermediaries is ranked third.
- Further it is found that, among the 5 factors towards the veterinary constraints faced by the dairy farmers “Lack of veterinary facility at the doorstep at the time of emergency” is ranked first. It is then followed by “High cost of treatment”. Non availability of medicines is ranked third.

F. Suggestions

The following suggestions are to be provided for reducing the problems faced by the farmers in the study area:

- 1) Continues rise in the price of feed is the major problem of farmers. So the society should sale cattle feed at subsidized rate.
- 2) Financial institutions should grand credit facilities to the farmers for meeting their day to day expenses and purchasing of animals.
- 3) The current price offered by the society is not satisfactory for the farmers. So society should in the price of procurement.
- 4) Another major marketing constraints of farmers are Lack of cold storage facilities. So each societies should make necessary steps to arrange cold storage facilities for avoiding spoilage of milk produced.
- 5) The veterinary facilities available in the study area are not sufficient, especially no service is available for 24 hours. So take necessary steps for providing adequate and proper veterinary facilities at the time of emergency.

V. CONCLUSION

Dairy farming is one of the important sources of income and providing occupation to the rural families in Ernakulam District. Primary Cooperative Societies are playing an important role in the development of dairy development. In the study area dairy farming is mainly done by male farmers and resides in rural areas. The various problems faced by the farmers give continues rise in the price of feed, high daily expenses, low profit, lack of veterinary facilities, less procurement price, lack of cold storage facilities, high treatment cost etc. The study can be conducted for each and every problems’ variables of the dairy farmers. The study can be also done based on type of cow rear, level of satisfaction, level of awareness and utilization pattern of various schemes offered by Milma. Hence, in this article an effort has been made to find out the major problems faced by the dairy farmers in economical, veterinary and marketing of milk produced.

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