Original Research Article

ECONOMIC ANALYSIS OF MILK PRODUCTION IN RAGHURAJ NAGAR TASHIL OF SATNA DISTRICTS MADHYA PRADESH

Abstract

Study has been examined that "Economic Analysis of Milk Production" in Raghuraj Nagar tashil of Satna Districts Madhya Pradesh during the period January 2020 –June 2021' Stratified random sampling method has been use for analysis in the study. Total 50 farmer milk producing respondents have been randomly selected from 10 selected villages in Raghuraj Nagar tahsils and 25 dairymilk producer respondents have randomly selected in research area. Study has examined on the basis of design objectives i.e. 'To calculate the cost & return analysis of different size milk production'. Finding of the research have Rs 22.973, Rs 15.378 and Rs 19.1755 per liter milk production cost for first size, Second size and Average size milk producers respectively. However Per animal milk production cost has Rs 42737.355, Rs 29128.197 and Rs 32602.006 for first size, Second size and Average size milk producers respectively. 6325.02 liter, 21208.2 liter and 12971.01 have per animal milk production milking period **for** first size, Second size and Average size milk producers respectively.

Key word – Per liter milk production cost, gross return, net return, fixed cost, working cost etc.

1.00 - INTRODUCTION:

Milk is very important item as a source of animal's protein in all over India and plays a vital role in maintaining and the promoting the health of the people. It has provided numerous small/marginal farmers and agricultural labourers with supplementary employment and a regular source of income. Dairying and its related activities create jobs equivalent to about 25 million a year. The significant role played by the co- operatives in stimulation of dairying has also proved to be an important source of progress.

Over 11 million farmers are organized into about 0.1 million village Dairy Co-operative Societies (about 110 farmers per Dairy Co-operative Societies). The Cumulative milk production handled by the Dairy Co-operative Societies across the country is about 18 million kg of milk per day. Milk production is based on the type of the milch animal. Buffalo milk return, Cows and the returns on investment are very high because of their more yield and lactation period.

The pursuing project is study on Economic analysis of milk production in Raghurajnagar tehsil of Satna District M.P' and their study area is tehsil Raghurajnagar of Satna District. It is covered the milk production analysis in Raghurajnagar tehsil of Satna District. The study has

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Problem statement - X
Objective(s) - /
Methodology - /
Main findings - /
Conclusion - X

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been examine and analyzed the cost and return of milk production on the available secondary data selected working area of the project. **Objectives-** To calculate the cost returns and marketing analysis milk production

2.00- MATERIAL AND METHOD:

Multi stage stratified sampling technique was adopted for the selection of milk procedure in order to have a un biased result. Raghurajnaga tahsil has been selected for the project. Four stages have adopted as selection of tahsil, selection of village, selection of milk producers and selection of dairy milk producers. Data collection plays a very crucial role in the statistical analysis. In research, there are use primary and secondary data both and to gather information from primary and secondary resources. Primary data are collect from direct to respondents while secondary data is already collected or produced by others resources or secondary sources.

Raghurajnagar tahsil have purposely selected from entire tahsil of Satna districts of Madhya Pradesh. Then 10 villages have random select from entire villages of the selected tahsils. While 05 milk producer farmers have been select from each selected village and ultimately Total 50 milk producing farmer respondents have randomly selected from entire selected villages in Raghuraj Nagar tahsils and also 25 dairy farms have randomly select in satna city and villages

Data analysis is a process inspecting, cleansing, transforming and modernization of data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making. Tables showing the values of the cumulative distribution functions, and used to determine whether or not a particular statistical result exceeds the required significance level see hypothesis testing.

3.00-RESULT AND DISCUSSION:

Fixed capital included milch cattle, cattle shop, bullock shed residence and equipment and appliance. Equipments and appliance include chaff cutter, gunny bag milking bucket etc. At the beginning of the study the value of all the milch cattle, cattle shed, bullock shed, residence and equipment was obtained from the household (milk producer). The average value of fixed capital by the number of milk cattle .Annual depreciation of the milch cattle has been worked out by dividing value of the milch cattle. The working costs are included as Feeding Charges, Roughages (Green Roughages, Dry Roughages, Concentrate, Labour Charges, Veterinary, Electricity, Water and Miscellaneous Charges.

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Table 1: Milk producers groups

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Number of milking animal	170	248	209
2	Percent	40.669	59.330	50.00
3	Average groups Size	3.4	9.92	6.6

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3.01 - Milk producers groups:

Table 1. has presented that milk producer groups. 3.4, 9.92 and 6.6 have Average gropes size for First size second size and average size milk producer respectively. However, 170, 248 and 209 have total number of milking animal for First size second size and average size milk producer respectively.

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Table 2: Milk production of different size of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Per day per animal milk production (in Lit)	7.95	9.137	7.543
2	Per producers milk production (in Lit)	27.03	90.639	55.434
3	Number of milking animal	170	248	209
4	Per day Milk production (in Lit)	1522	3010	2266

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3.02- Milk production of different size of milk producers:

Table 2 has presented that Milk production of different size of milk producers**.** 7.95, 9.137 and 7.543 lit per day per animal milk production for first size, second size and average size milk producer respectively. However, 27.03, 90.639 and 55.434 liter per day per milk producer production for first size, second size and average size milk producer respectively

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Table 3: Month and year wise milk production of different size of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Average size of milking animal	3.4	9.92	6.6
2	Per day milk production (In lit)	27.03	90.639	55.434
3	Per month milk production (In lit)	810.9	2719.17	1663.035
4	Per milking period milk production of milking animal (In lit)	6325.02	21208.2	12971.01

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3.03- Month and year wise milk production of different size of milk producers:

Table 3 has presented that Month and year wise milk production of different size of milk producers**.** 810.9, 2719.17 and 1663.035 lit per month per animal milk production for first size, second size and average size milk producer respectively. However, 6325.02, 21208.2 and 12971.01liter per milking period production for first size, second size and average size milk producer respectively.

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Table -4: Value of milk production from different group size of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Average size of milking animal	3.4	9.92	6.66
2	Per milking period milk production of milking animal (In lit)	6325.02	21208.2	12971.01
3	Price of milk Rs Per lit	30	35	32.50
4	Value of milk production in Rs	189750.6	742287	442150.8

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***(Milking period of milking animal 7.8 month)**

3.04 - Value of milk production from different group size of milk producers:

Table 4 is showed that, the Value of milk production from different group size of milk producers in the research area. Rs 189750.6, Rs. 742287 and Rs 442150.8 milk production value have for first size, second size and average size milk producer respectively.

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Table 5 a: Quantity of other than milk from different groups of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Average size of milking animal	3.4	9.92	6.66
2	Other than milk produce Quantity			
a	Calves in number	3.4	9.92	6.66
b	Dry animal in number	3.4	9.92	6.66
c	FYM In Tone	8.5	24.8	16.65

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Table 5 b: Value of other than milk from different groups of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Average size of milking animal	3.4	9.92	6.66
2	Value of Other than milk produce			
a	Value of Calves in Rs	17000	39680	28340
b	Value of Dry animal in Rs	35000	79360	57180
c	Value of FYM in Rs	12750	29760	21255
3.	**Total value of Other than milk produce in Rs.**	**64750**	**148800**	**106775**

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(Rs 5000 per calves, Rs 10000 dry animal one calf's, one dry animal sale per milking animal of farms and 2.5 tone FYM produce per animal per year@ Rs 1500 per ton FYM for first size and Rs 4000 per calves, Rs 8000 dry animal one calf's, one dry animal sale per milking animal of farms and 2.5 tone FYM produce per animal per year@ Rs 1200 per ton FYM for second size)

3.05 -Quantity and Value of other than milk from different groups of milk producers:

Table 5(a) is showed that the Quantity of other than milk from different groups of milk producers. 3.4, 9.92 and 6.66 have number of Calves and same number of dry animals for first size, second size and average size per milk producer respectively. However, 8.5 tones, 24.8 tones and 16.65 tones FYM have for first size, second size and average size milk producer respectively.

Table 5(b) is showed that the value of other than milk from different groups of milk producers. Rs 64750, Rs 148800 and Rs. 106775 total value of other than milk produce have for first size, second size and average size milk producer respectively. However, followed the Rs 17000, Rs 39680 and Rs 28340 value of Calves, also the Rs 35000, Rs 79360 and Rs 57180 value of Dry animal and also Rs 12750, Rs 29760 and Rs 21255 value of FYM have for first size, second size and average size milk producer respectively.

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Table – 6 (a): Average value of fixed cost per milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1	Investment on land and infrastructure in Rs	2590100 (61.15)	3940000 (73.16)	3265050 (67.88)
2	Investment on equipments & Machineries in Rs	858050 (20.26)	461200 (8.56)	659625 (13.71)
3	Investment on milk cow and buffalo in Rs	786507 (18.57)	983806 (18.27)	885156.5 (18.4)
	Total fixed cost in Rs	4234657 (99.98)	5385006 (99.99)	4809831.5 (99.99)

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3.06- Average value of fixed cost per milk producers:

Table 6(a) is showed that the Average value of fixed cost for different size of per milk producers in the research area. Rs. 4234657, Rs. 5385006 and Rs. 4809831.5 with hundred percent of total fixed cost have for first size, second size and average size milk producer respectively. Followed the Rs. 2590100, Rs. 3940000 and Rs. 3265050 with 61.15, 73.16 and 67.88 percent of investment on land and infrastructure of fixed cost, also Rs. 858050, Rs. 461200 and Rs. 659625 with 20.26, 8.56 and 13.71 percent of Investment on equipments & Machineries of fixed cost and also Rs. 786507, Rs. 983806 and Rs. 885156.5 with 18.57, 18.27 and 18.40 percent of Investment on milk cow and buffalo have for first size, second size and average size milk producer respectively.

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Table – 6 (b): Average value of working Assets cost Rs per milk producers

S. No.	Particulars	Size of groups		
		First size	Second size	Average size
1	Roughages			
a	Green	22440 (10.682)	68640 (14.451)	45540 (13.296)
b	Dry	15300 (7.283)	47700 (10.043)	31500 (9.196)
c	Concentrate	43819.2 (20.86)	181748.736 (38.266)	112783.968 (32.929)
	Total of Roughages	81559.2 (38.826)	298088.736 (62.762)	189823.968 (55.422)
2	Veterinaries charges	3400 (1.618)	10400 (2.189)	6900 (2.014)
3	Electricity charges	6000 (2.856)	9000 (1.894)	7500 (2.189)
4	Miscellaneous charges	1750 (0.833)	5200 (1.094)	3475 (1.014)
5	Inters of working cost (10 % of total working cost)	8845.92 (4.211)	32268.873 (6.794)	20557.3968 (6)
6	Totals of working cost	101555.12 (48.346)	354957.609 (74.735)	228256.365 (66.643)
	Over head cost			
1	Depreciation on equipment and machineries (15 % salvage value of equipment and machine and divide by life of equipment and machine again divide by 10 year)	12870.75 (6.127)	6918 (1.456)	9894.37 (2.888)
2	Depreciation on animal (20 % salvage life of animal and divide by animal life 5 then again depreciation value is divides by 10 year	15730.14 (7.488)	19676.12 (4.142)	17703.13 (5.168)
3	Interest on fixed Assets 10 % of Fixed cost and divided by the life of dairy) 10/10 means 1%per year	25901 (12.33)	39400 (8.295)	32650.5 (9.532)
4	Upkeep labor charges	54000 (25.707)	54000 (11.369)	54000 (15.766)
6	Total Overhead cost	108501.89 (51.653)	119994.12 (25.264)	114248 (33.356)
	Total production cost	210057.01 (100)	474951.729 (100)	342504.365 (100)

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3.07 - Average value of working Assets cost Rs per milk producers:

Table 6(b) is showed that the Average value of working Assets cost for different size of per milk producers in the research area. The Rs. 210057.01, Rs. 474951.729 and Rs. 342504.365 with hundred

percent of total milk production cost have for first size, second size and average size milk producer respectively. The Rs. 101555.12, Rs. 354957.609 and Rs. 228256.365 with 48.346, 74.735 and 66.643 percent Totals of working cost have for first size, second size and average size milk producer respectively. However Rs 108501.89, Rs 119994.12 and Rs 114248 with 51.653, 25.264 and 33.356 percent of Total Overhead cost have for first size, second size and average size milk producer respectively. Followed the Rs 81559.2, Rs 298088.736 and Rs 189823.968 with 38.826, 62.762 and 55.422 percent of total roughages cost. The Rs 22440, Rs 68640 and Rs 45540 with 10.682, 14.451 and 13.296 percent of green roughages, Also Rs 15300, Rs 47700 and Rs 31500 with 7.283, 10.043 and 9.196 percent of dry roughages cost. Also Rs 43819.2, Rs 181748.736 and Rs 112783.968 with 20.86, 38.266 and 32.929 percent of concentrate cost. Also Rs 54000, Rs 54000 and Rs 54000 with 25.707, 11.369 and 15.766 percent of upkeep labor charges cost have for first size, second size and average size milk producer respectively.

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Table -7: Return from the milk production for different groups of milk producers

S. No.	Particulars	Size of groups		
		First size	**Second size**	**Average size**
1.	**Total cost (in Rs)**	**210057.010**	**474951.729**	**342504.365**
2.	Return			
a	**Value of milk produce in Rs**	**142014.60**	**742287.00**	**442150.80**
b.	Value of milk From other then milk			
i	Calves in number in Rs	17000	49600	33300
ii	Dry animal in number in Rs	35000	99200	66600
iii	FYM in Rs	12750	37200	24975
iv	**Total value of other than milk in Rs**	**64750.00**	**148800.00**	**106775.00**
3.	**Gross Return in Rs**	**274807.01**	**928287.00**	**567525.80**

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3.07 - Return from the milk production for different groups of milk producers:

Table 7 is showed that the return from the milk production for different groups of milk producers in the research area. Rs 210057.010, Rs 474951.729 and Rs 342504.365 per milk producer total milk production cost have for first size, second size and average size milk producer respectively. However, Rs 274807.01, Rs 928287.00 and Rs 567525.80 per milk producer Gross Return have for first size, second size and average size milk producer respectively. Followed the Rs 142014.60, Rs 742287.00 and Rs 442150.80 per milk producer value of milk produce and Rs 64750.00, Rs 148800.00 and 106775.00 per milk producer total value of other than milk produce have for first size, second size and average size milk producer respectively.

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Table -8: Per liter milk production cost and net return of different size of milk producers

S. No.	Particulars	Size of groups		
		First size	Second size	Average size
1	Total cost (in Rs)	210057.010	474951.729	342504.365
2	Gross Return	274807.01	928287	567525.8
3	Net Return	64750.00	148800.00	106775.00
4	Per liter milk production cost in Rs/Lit.	22.973	15.378	19.175

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3.09- Per liter milk productions cost and net return of different size of milk producers:

Table 7 is showed that the per liter milk productions cost and net return of different size of milk producers in the research area. Rs 22.973, Rs 15.378 and Rs 19.175 per liter milk production have for first size, second size and average size milk producer respectively. However, the Rs 64750.00, Rs 148800.00 and Rs 106775.00 per milk producer milk production net return have for first size, second size and average size milk producer respectively.

4.00 - CONCLUSIONS:

The study examined that Economic Analysis of Milk Production" in Raghuraj Nagar tashil of Satna Districts Madhya Pradesh, The findings revealed that the second group size of milk producers was large than the first and third size milk producers. Milk production of second size of milk producer was higher than second and third sizes of milk producers. Milk production cost of second size milk producer was higher than the first and third size of milk producers. Gross return of second size of milk producer was higher than second and third size group of milk producers. The net return of second size milk producer was higher than the first and third size of milk producers. The per liter cost of first size milk producer was higher than the third and second size milk producers. For future prospects, the study recommends that milk producer were reduce the per liter milk production cost, keeps the higher milk producing breeds of animal and periodically remove the dry and unproductive animal that is avid the extra expenses of milk producers.

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