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AN ASSESSMENT OF ECONOMIC STATUS OF THE DAIRY FARMERS IN INDORE DISTRICT

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Abstract
This research was conducted in the Indore district of Madhya Pradesh to assess the economic status of the dairy farmers of the district. Personal interviews were conducted among 120 dairy farmers of all the four blocks of Indore district. Research shows that dairy farming is a profitable business but more profit can be made if one can take the member of cooperative society as he can get various benefits like better prices, improved veterinary services and easy credit facilities. Dairy farming hence, is proved as a good source of income and can be seen as a way to alleviate poverty and unemployment. It is also very useful for the womens as they can made extra income for household expenditure purpose which improves the economic status of their house and standard of living. Various suggestions has been given to the government and cooperative societies related to training of dairy farmers, market development and facilities need to be provided to the farmers for dairy development as dairy farmers were facing constraints related to market, prices and technology which helps them for better operations and motivates others to become the part of dairy industry.

Keywords: Dairy farming, Constraints, Herd size, Economic status, Cooperative society.

Introduction
Dairying in India occupies a prominent place in rural life and provides not only subsidiary occupation and nutritional standards but is also a source of organic manures and draught power. From recent decades, a rapid development and growth has been recorded in this sector. India, now become the largest producer of milk and milk related products in the global scenario. It also possesses the largest market for milk products with the potential and size of 132 crore population growing at the rate of 1.19% and large number of resources. Livestock sector contributes about 4.0 per cent of the total GDP of India. Milk is an important commodity not only as a source of dairy industrial raw material but also a nutritive food for the people. Milk has been considered nearly a complete food for the infants and growing children. India continues to be the largest producer of milk in the world.

Indian dairy industry can be divided into two types of enterprises, viz: Liquid Milk and Milk Products. In the procurement and marketing of liquid milk, there is strong presence of co-operative and traditional private channels though the organized sector private enterprises also exist. Dairying as a profession revolves around milk and milk products. Presently, about 1.13 lakh village level cooperative societies spread over 265 districts in the country form part of the National Milk Grid. The Grid links the milk producers throughout India with consumers in over 700 towns and cities smoothing the seasonal and regional variations in the availability of milk and ensuring a remunerative price to the producers and a reasonable price for quality milk and milk products to the consumers.

The milk production in the country was 17.0 million tonnes during 1950-51. Government has taken number of initiatives since 1950-51 to improve the productivity of milk and by 2016-17 it comes to 165.4 million tonnes making India as the largest producer of the milk with a growth rate of 6.4%. Also, the per capita availability of milk was at 130gm/day n 1950-51 which has increased to 355 gm per day in 2016-17.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

India is the "Oyster" of the global dairy industry. As India enters an era of economic reforms in general and agriculture particularly the livestock sector is positioned to be a major growth area. The fact that dairying could play a more constructive role in promoting rural welfare and reducing poverty is increasingly being recognized, e.g., milk production alone involves more than 70 million producers, each raising one or two cows/ Buffaloes. Cattle also serve as an insurance cover for the poor households, because they can be sold during times of distress. The need for food items especially for milk and product in India is increasing rapidly due to several factors like increasing population, urbanization, income levels, awareness about nutritive value and also the changes in tastes and preferences.

Objective of the Study
- To study the dairy operations and status of dairy farming in Indore district
- To analyze the livelihood status and economics of dairy farmers in Indore district.
- To analyze the cost of production and marketing of dairy products in Indore district
- To identify the constraints faced by dairy farmers and to suggest suitable measures for improving the dairy activity.

Methodology used
This study is conducted to assess the economic status of the dairy farmers in context of Madhya Pradesh and Indore district is selected as the study area. For conducting the research, all the four blocks of Indore district i.e. Indore block, Mhow block, Sanwer block and Depalpur block is considered as four quotas and equal number of dairy farmers who were members of cooperative society and non-members were selected from each block using stratified random sampling method. Researcher has selected 15 cooperative dairy farmers and 15 non-members from each block which makes the total size of 120 respondents. The data is collected through intensive field work and by conducting personal interviews with dairy farmers. A structured schedule is prepared to collect the desired response which contains the questions related to operations of dairy farming, milk production, sales, cost incurred and constraints faced by the dairy farmers in operating a dairy farm.

Result and discussion
From the given table 1, it can be clearly observed that the sample population is skewed towards male population at about 90% indicating the greater participation by male diaspora whereas female respondents are only 10%. It was also found that majority of the dairy farmers belongs to the age group of 31 - 40 years (about 47.5%) followed by the age group of 41 – 50 years (about 29.2%), 17.5% are belongs to the age group of below 20 years, whereas only 5.8% belongs to the group of above 50 years. The sample has also the largest chunk of respondents as higher secondary (10+2) at about 52.5% with high school 34.2%, about 9.2% with primary education and graduate segments accounting for only 4.2%. Majority of dairy farmers in the study area have a family size of 4 to 6 members (65%) and upto 3 members (24.3%) but some farmers have bigger family of more than 6 members (10.8%). The major occupation of the dairy farmers is cultivation (70.8%) followed by wage labours (10.8%), business (5.8%), other type of work (10%) and livestock rearing (2.5%). The monthly income of majority of sampled dairy farmers in the studied four blocks ranges in between Rs. 10,000 to Rs. 30,000 (70%) whereas some dairy farmers will able to make an income of more than Rs. 30,000 (24.2%) and only few have an income below Rs. 10,000 (5.8%). Overall the sample for study is a fair representation of the population since the study was conducted mainly in rural areas of Indore district.

Table 1: Demographic Details of the Respondents

Particulars		Frequency	Percentage
Gender	Male	108	90.0%
	Female	12	10.0%
Age	Upto 30 Years	21	17.5%
	31 - 40 Years	57	47.5%
	41- 50 Years	35	29.2%
	Above 50 Years	7	5.8%
Educational Status	Upto Primary	11	9.2%

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

	Upto 10th	41	34.2%
	Upto 12th	63	52.5%
	Graduate or Above	5	4.2%
No. of Family Members	Upto 3 Members	29	24.2%
	4 - 6 Members	78	65.0%
	More than 6 Members	13	10.8%
Occupation	Livestock Rearing	3	2.5%
	Cultivation	85	70.8%
	Other Business	7	5.8%
	Wage Labour	13	10.8%
	Any Other	12	10.0%
Monthly Income	Upto 10,000	7	5.8%
	10,001 – 20,000	41	34.2%
	20,001 – 30,000	43	35.8%
	30,001 - 40,000	24	20.0%
	Above 40,000	5	4.2%

(a) Herd Size

The total number of cattle owned by the sample respondents in the four studied blocks of Indore district i.e. Indore, Mhow, Sanwer, and Depalpur were found to be 379 for cooperative members and 263 for non-members. The mean value for every cooperative member household is 6.31 which is much greater as compared to non-member household which is 4.38.

Table 2: Type of breed possessed by members and non-members (Source: Primary Data)

Block	Cooperative				Non-Members			
	Local Cows	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*	*Local Cows*	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*
Indore	20	50	19	20	32	13	16	1
Mhow	11	45	23	7	34	16	17	-
Sanwer	9	44	26	14	33	13	21	3
Depalpur	6	43	27	15	37	15	10	2
Total	**46**	**182**	**95**	**56**	**136**	**57**	**64**	**6**

When compared the result among members of cooperative and non-members, it was found that Cooperative members possess more number of cross breed cows (182), Local buffaloes (95) and Murrah buffaloes (56) as compared to non-members. In terms of local cows non-members are ahead from cooperative members and possess about 136 cattle as compared to 46 by members. From the table 4.4 it was concluded that people associated with cooperatives used to keep the cattle with high milk productivity whereas non-members use to possess more local breed cattle. This may be due to the affordability which is higher among cooperative members due to various benefits and credit facilities availed by the cooperative whereas non-members has low affordability as high mulching cattle costs more and they have less funds and non-availability of credit facilities.

(b) Production and Productivity of Dairy Cattle

The quality of cattle determines the value as well as the volume of the milk. This sentence is totally valid in case of the dairy sampled household in the studied four blocks of Indore district. The table 4.5 given below presents the details of the currently mulching cattle in all the studied four blocks. It was found that a total of 290 out of 379 cattle of cooperative members are giving milk whereas a total of 197 out of 263 cattle of non-members are giving milk. The breed and type wise details of the milch cattle are given in table 3.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Table 3: Breed wise mulching cattle at various blocks (Source: Primary Data)

Block	Cooperative				Non-Members			
	Local Cows	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*	*Local Cows*	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*
Indore	17	37	12	14	23	10	12	1
Mhow	8	34	18	7	27	13	12	0
Sanwer	6	35	19	13	22	13	17	1
Depalpur	5	34	19	12	26	10	8	2
Total	**36**	**140**	**68**	**46**	**98**	**46**	**49**	**4**

From table 3, it was revealed that highest number of milching cattle is from Indore block (123) whereas in highest number of local cattle giving milk was found in Mhow block (65) and highest number of crossbreed cattle was found in Indore and Sanwer block (64).

Table 4: Milk production by cooperative members and non-members (Source: Primary Data)

Block	Cooperative	Non-Members
Indore	869	397
Mhow	764	430
Sanwer	916	480
Depalpur	849	416
Total	**3398**	**1723**

Table 4 indicates total production of milk by the sample households of the four blocks. A total of 3,282 liters of milk was produced by the sample household in which a total of 2,164 liters of milk is produced by the member of cooperatives whereas non-members were able to produce about 1,118 liters of milk in a day. The breed and type wise a detail of the milk production in four studied blocks is presented in table 5.

Table 5: Breed wise milk production at various blocks (Source: Primary Data)

Block	Cooperative				Non-Members			
	Local Cows	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*	*Local Cows*	*Cross Breed*	*Local Buffalo*	*Murrah Buffalo*
Indore	92	424	128	225	123	121	136	17
Mhow	44	409	198	113	146	150	134	-
Sanwer	33	458	214	211	120	146	198	16
Depalpur	26	419	212	192	142	152	88	34
Total	**195**	**1710**	**752**	**741**	**531**	**569**	**556**	**67**
Total Cattle	36	140	68	46	98	46	49	4
Mean	*5.41*	*12.21*	*11.05*	*16.1*	*5.41*	*12.36*	*11.34*	*16.75*

Table 5 gives a clear idea about the productivity of the cattle in terms of species wise for both cooperative members as well as for non-members. The mean yield of local cows for both cooperative members as well as for non-members is 5.41 liter/cow/day. The yield of cross breed cows is slightly high in case of non-members than cooperative members which is about 12.36 liter/cow/day as compared to 12.21 liter/cow/day. The yield of local buffalo for cooperative members is 11.05 liter/buffalo/day is also found almost equal with non-member which is 11.34 liter/buffalo/day. The yield of murrah buffalo for cooperative members is found at about 16.1 liter/buffalo/day which is slightly lowered as compared to non-members which is about 16.75 liter/buffalo/day.

(c) Sales of Milk
Table 6 indicates the total quantity of milk sold per day by the sample household in Indore district. It was found that 3234 liters of milk was sold by sampled cooperative members and around 1592 liters of milk sold by

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

sampled non-members every day in the district. It was also observed that in Sanwer block, highest amount of milk sold by sampled household (both cooperative and non-members) followed by Indore block. Least amount of milk was sold by sampled households of Mhow block.

Table 6: Per day sales of milk in Indore district

Block	Cooperative	Non-Members
Indore	828	364
Mhow	725	401
Sanwer	873	446
Depalpur	808	381
Total	**3234**	**1592**

Table 6 presents the status of milk sold by sampled members and non-members in studied four blocks. It was found that highest amount of milk, around 2425 liters, was sold to cooperative firms every day whereas 1010 liters of milk was sold to private milk factories, around 800 liters was sold to vendors and 591 liters was directly sold to the consumers every day. Highest milk was sold by Sanwer block and lowest by Mhow block.

(d) Sales Price

Table 7: Sales price of milk in study area

Block	Cooperative	Private	Vendors	Consumers	Avg Price
Indore	38.2	37.8	36.9	42.6	38.87
Mhow	33	38.25	37	42.2	37.6
Sanwer	40.8	37.8	37.4	42	39.5
Depalpur	38.5	37.1	37	42.5	38.7
Avg Price	**37.6**	**37.7**	**37**	**42.3**	**38.6**

Table 7 shows the details of prices offered by the agencies and people to the dairy farmers for their milk in Indore district. The average price offered to the sampled household farmers is Rs. 38.6. The average prices at which the sampled households from all the studied blocks sold their milk to cooperatives is calculated around Rs. 37.6 , for private factories Rs. 37.7, for vendors Rs. 37 whereas it is sold at the highest average price of Rs. 42.3 to the consumers. The highest average price of milk was found in Sanwer block followed by Indore block. This shows that selling milk directly to the consumers is more profitable rather than selling to cooperative or middleman.

(e) Sales of Dung
When asked about the question related to selling of dung of cattle, all the respondents has positively replied that they use to sell the cattle dung for getting extra income from it. Some respondents use to sell it in bulk to other agricultural farmers for using it as natural manure in the field while some use to make cakes which are used as a source of cooking fuel in the house.

Table 8: Earning from sales of cattle dung

Block	Cooperative	Non-Members	Total
Indore	218600	169900	3,88,500
Mhow	225000	152800	3,77,800
Sanwer	219000	144800	3,63,800
Depalpur	232900	161700	3,94,600
Total	**895500**	**629200**	**15,24,700**
Average/Cattle	**2362.8**	**2392.4**	
Average/Household	**14,925**	**10,486**	

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

From the above given table 8, it was found that a total of Rs. 15,24,700 is generated every month by the sample household in the studied four blocks which shows that it is a good source of income. A total of Rs. 8,95,500 is earned by the member of cooperative whereas around Rs. 6,29,200 is generated by non-member households. The largest income from selling of dung is generated from Depalpur block followed by Indore block. Least income by selling of dung is generated in Sanwer block. It was also found that on an average member of cooperatives will able to generate the income of Rs. 14,925 whereas non-members will able to generate Rs. 10,486 every month. On an average an income of Rs. 2,362.80/cattle was generated by member of cooperative society by sales of cattle dung whereas income of Rs. 2,392.40/cattle was generated by non-members in the studied four blocks.

(f) Economic analysis of farmers

To calculate the economic condition of the dairy farmers in the studied four blocks, first of all, cost of production need to be calculated. The total cost consists of cost of fixed capital and variable cost. As per the rule, some depreciation as a part of fixed cost is incorporated while calculating the total cost of production.

(i) Fixed Cost

For calculating the fixed cost incurred by the dairy farmers every month, we have calculated the fixed asset cost and variable asset cost per month incurred.

Table 9: Fixed Asset Cost

Particulars	Cooperative	Non-Members
Shed house	553000	347000
Chaff cutters (Rs.)	2500	2500
Feeding trough (Rs.)	1765	1765
Buckets (Rs.)	983	550
Milk cans (Rs.)	1770	1350
Milk measure (Rs.)	550	550
Others	3610	1560
Total	564178	355275
Depreciation/Year (10 years)	56417.8	35527.5
Fixed asset cost/month	**4701**	**2960**

Average value of all the responses is used for calculations

As given in the table 9, it was calculated that Rs. 5,53,000 is the average cost incurred by the member of cooperatives on fixed assets and on an average Rs. 3,55,275 is invested by non-member on fixed assets which we assume has a life span of 10 years. After charging the depreciation it was calculated that Rs. 4,701 is fixed asset cost for members and Rs. 2,960 is for non-members every month.

(ii) Variable Asset Cost

Under variable assets, we have calculated the cost of cattle which need to be incorporated for calculating the total fixed cost incurred by every household of cooperative as well as by non-member.

Table 10: Variable asset cost

Particulars	Cooperative	Non-Members
Total no. of Cattle	379	263
Total Value of Cattle	11497000	5248000
Average Life (Lactation)	11.26	11.26
Per Year Value	1021047.96	466074.6
Per Month Value	85087.33	38839.55
Cost/Household/Month	**1418.12**	**647.32**

Average value of all the responses is used for calculations

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

As per table 2, we know that total number of cattle owned by sampled member of cooperative in studied four blocks are 379 which has a total value of Rs. 1,14,97,000 and non-members owned 263 cattle valued at Rs. 52,48,000. The average lactation period in life span of cattle is 11.26, hence the average cost incurred by member of cooperative per year is Rs. 10,21,047 and by non-members is Rs. 4,66,074. The per month cost for each member household is Rs. 1418 and for each non-member household is Rs. 647. Now, the Total Fixed Cost = Fixed Asset Cost + Variable Asset Cost, which becomes Rs. 15,924 for each member household and Rs. 10,003 for each non-member household.

Table 11: Total fixed cost per month

Particulars	Cooperative	Non-Members
Fixed asset cost/month	4701	2960
Variable asset cost/Household/Month	1418.12	647.32
Total fixed asset cost/month	**6119**	**3607**

While calculating the variable cost, first and the most important cost incurred by the dairy farmers is cost of feeding. The table given below presents the average cost of feed/month by different species of cattle in the studied four blocks.

Table 12: Cost of feed

Particulars	Cost of feed/day	Monthly
Local Cow	45	1350
Cross Breed	72	2160
Local Buffalo	90	2700
Murrah Buffalo	105	3150
Average Cost		**2340**

The average feeding cost of local cows are Rs. 1350/Month, for cross breed cows it is Rs. 2160/Month, for local buffaloes it is Rs. 2700/Month whereas for Murrah buffaloes it is Rs. 3150/Month. This average cost of feeding includes the cost of Concentrates, Dry fodder, Rice/Soya straw, and Grazing. Based on the average herd size presented in table 2, cost of feeding according to herd size is calculated. The average herd size for cooperative members is 6.31 and for non-members it is 4.38.

Table 13: Variable cost per month

Particulars	Cooperative	Non-Members
Cost of Feeding (Rs.)	14765	10249
Medicines (Rs.)	578	247
Veterinary Services (Rs.)	200	200
Labour (Hired + Family) (Rs.)	4200	2100
Electricity (Rs.)	1142	674
Water (Rs.)	1180	760
Transportation (Rs.)	6755	4537
Variable cost/month	**28820**	**18867**

The variable cost incurred by each cooperative member and non-member. The cost of feeding is depended upon the average herd size and average cost of feeding for both members and non-members which is Rs. 14,765 for members of cooperative society and Rs. 10,249 for non-members. The total variable cost incurred by the member of cooperative society is Rs. 28,820 and by non-members is Rs. 18,867. Now, the Total cost incurred by household of cooperative member as well as by non-cooperative member averagely can be calculated by

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

summing up the fixed cost and variable cost. The total cost per month incurred by the member of cooperative society in all four studied blocks is Rs. 34,939 and by non-members is Rs. 22,474.

Table 14: Total cost per month incurred by farmers

Particulars	Cooperative	Non-Members
Total Fixed Cost	6119	3607
Total Variable Cost	28820	18867
Total cost/month	**34939**	**22474**

(iii)   Cost of Goods Sold

While calculating the economic condition of the farmers, the most important part is the calculation of income i.e. cost of the goods sold. It was found that 3234 liters of milk was sold by the members of cooperative society every day in all the studied four blocks making the average of 53.9 liters per farmer per day and 1617 liters per month which is sold on the average rate of Rs. 38.6 as calculated above making an average income of Rs 62,416 per month by every household. In all the four blocks, non-members use to sell 1592 liters of milk per day with an average of 26.5 liters per household per day making an average of 795 liters of milk per month which was sold on the average price of Rs. 38.6 generating an income of Rs. 30,687 per month. Apart milk, farmers also use to sell the dung of animal in form of manure or dung cakes used as fuel for cooking. On an average cooperative member will able to generate an income of Rs. 14,925 per month which makes their total earnings of Rs. 77,341 per household per month whereas non-members will able to generate an income of Rs. 10,486 from selling of dung making their average monthly earnings of Rs. 41,173 per household. Some farmers also use to process milk and sell milk product but very few farmers use to process the milk and also the quantity of produced milk product is also very less hence is not incorporated in the calculation of earnings.

Table 15: Cost of goods sold (sales of farmers)

Particulars	Cooperative	Non-Members
Total Milk Sold/Day	3234 Lit	1592 Lit
Average Milk Sold/Day/Household	53.9 Lit	26.5 Lit
Toatl Milk Sold/Month/Household	1617 Lit	795 Lit
Average Price (Rs.)	38.6	38.6
Cost of Milk Sold/Month (Rs.)	**62416**	**30687**
Cost of Dung Sold/Month (Rs.)	**14925**	**10486**
Amount earned/month (Rs.)	**77341**	**41173**

(iv)   Loan Amount

After calculations of total earnings of the dairy farmers in the studied blocks, we are calculating the loan amount and interest paid by the farmers for further economic calculations. It was found that around Rs. 27,55,000 of loan is taken by the members of cooperative society whereas the loan amount is Rs. 11,23,000 for the non-members. The loan given by the bank is for 3 years at the rate of 11% per annum (as per government rule for dairying). The interest amount calculated is of Rs. 9,09,150 for members of cooperative society whereas it is of Rs. 3,70,590 for non-members which makes the total loan amount need to be paid in 3 years is of Rs. 36,64,150 for members and Rs. 14,93,590 for the non-members. The average loan amount need to paid per year by every cooperative member is Rs. 61,069 making an average of Rs. 5,089 per month whereas for non-members it is Rs. 24,893 per household per year making an average of Rs. 2,074 per month.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Table 16: Loan amount paid every month

Particulars	Cooperative	Non-Members
Loan taken	2755000	1123000
Interest p.a (11%.) for 3 Years (Rs.)	909150	370590
Total loan amount (Rs.)	3664150	1493590
Loan paid/household/year (Rs.)	61069	24893
Loan paid/household/month (Rs.)	**5089**	**2074**

(v) *Calculation of Income*

After calculation of the cost of asset, variable cost incurred by the farmers, loan amount need to be repaid and total earnings, we now calculate the net income of the dairy farmers. The average total amount earned by per cooperative dairy farmer in a month is Rs. 77,341 and total cost of production or expenses is Rs. 34,939 whereas total earnings of non-members is Rs. 41,173 and total expenses incurred is Rs. 22,474. The gross income of member of cooperative society per month is 42,402 and of non-member are 18,699. After deduction of loan amount of Rs. 4,089 the net monthly income of member of cooperative society is Rs. 37,313 whereas after deduction of loan amount of Rs. 2,074, the net monthly income of non-members is 16,625. This shows that members of cooperative society will able to earn more than double in comparison to non-members showing the benefits of becoming the member of cooperative society.

Table 17: Net earnings of the farmers

Particulars	Cooperative	Non-Members
Amount earned/month (Rs.)	77341	41173
Total expenses (Rs.)	34939	22474
Gross Income (Rs.)	**42,402**	**18,699**
Loan amount paid/household/month	5,089	2,074
Net Earnings/Month (Rs.)	**37313**	**16625**

(g) Constraints faced by dairy farmers

Table 18: Various constraints faced by dairy farmers

	Frequency	%	Rank
Socio-economic constraints			
Lack of own funds	68	56.7%	
High cost of establishment	72	60.0%	
High cost of variable inputs	57	47.5%	
Lack of organization	53	44.2%	III rd
Lack of high quality breeds	81	67.5%	
Storage of feed	71	59.2%	
Lack of government support	67	55.8%	
Total Responses	**90 (75%)**		
Technological constraints			
Lack of knowledge	72	60.0%	
Low technological adoption	92	76.7%	
Lack of skilled labour	47	39.2%	
Lack of risk bearing ability	34	28.3%	II nd
Lack of training facilities	78	65.0%	
Lack of veterinary services	24	20.0%	
Total Responses	**96 (80%)**		
Credit constraint			

Lack of credit facilities	83	69.2%	
Insufficient credit	78	65.0%	IV th
Lack of Institutional finance	69	57.5%	
Total Responses	**85 (70.8%)**		
Marketing constraints			
Unavailability of proper market	82	68.3%	
Low price in local market	94	78.3%	
Lack of roads	106	88.3%	
More transportation charge	89	74.2%	
Inadequate facilities in the market	79	65.8%	
Market locate at distance place	83	69.2%	I st
Less marketing surplus	41	34.2%	
Less profitability	86	71.7%	
Lack of marketing infrastructure	91	75.8%	
Perishability of milk	39	32.5%	
Lack of local consumption	23	19.2%	
Total Responses	**106 (88.3%)**		

The main constraints confronted by dairy farmers were divided into four main groups and each group having their own importance. The most important constraints was "marketing constraints*"* got rank 1st followed by *"technological constraints"* (2nd rank), "socio economic constraints" (3rd rank) and *"credit constraint"* (4th rank) respectively.

The production of milk in the studied four blocks is found less and cost of production is found higher than average cost as discussed by Chand et al, (2007). The major reason behind this is the constraints which make hindrance to low productivity of milk. Such constraints should be taken care, so that not only area under study but in whole Madhya Pradesh the overall milk production per year can be enhanced. The constraints analysis was reported based on the opinion survey of the sample farmers. For effective planning to develop dairy enterprise, it is not only required to assess the constraints but it is also necessary to assess the extent or seriousness of constraints.

Recommendations & conclusion
The findings from the study show that dairy farming is a very potential sector for generating good income. The income has a direct relation with the herd size and bigger herd size will create more income, but even small herd size is also profitable and is suitable for the small farmers which include landless farmers. Dairy activity will generate extra income apart cultivation activities and thus improves the economic status of the farmers. It also has a potential of employment generation. Unemployed people can start small scale dairy farming as credit facilities are given by the banks and also by the cooperative societies and hence, it is strongly recommended to the government that they should take dairy farming as a way of eradicating poverty by providing all the facilities to such farmers.

It was also found that cross breed animals gives much larger quantity of milk than local breed animal. In terms of species, a buffalo gives more quantity of milk than a cow and thus generates much more income. Hence, there is the necessity of giving more preference to buffaloes in general and improved breeds in particular. In the present setup, co-operative marketing agency is a dominant agency in marketing of milk. Price realisation through MPCS marketing is higher compared to vendors, but compared to local sale prices, it is less remunerative. Hence, MPCS should be strengthened in all the villages to avoid the mal-practices by the vendors. It is also necessary to increase the procurement price of milk equal to local sale prices. There is also much scope for processed milk products. Therefore there is necessity of improving the market for processed milk products in an organized manner.

The responses of the dairy farmers revealed about the constraints faced by them and the major constraints are marketing constraints and technological constraints. A sound market intelligence system is required so that farmers can sell their produce at favourable price. Also effective supply chain mechanism need to be adopted by the cooperative societies so that they can procure milk directly from the door step of the farmers as milk is a perishable item and villagers lacks cooling storages. This will cut down the cost of transportation of the farmers and their net income will increased.

For removing the technological constraints, proper training is required for the farmers. Cooperative societies and government has to develop effective and time to time training schedule for the farmers so that they can learn and adapt with the usage of technology. Veterinary services also need to be improved for better output and various suggestions were given to the cooperative society and government for improving the service and facility.

If the problems faced by the farmers are tackled properly and the suggestions are implemented effectively, no doubt dairy farming will become a promising and profitable activity.

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