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A Comparative Study of Costs and Returns for Different Categories of Milk Producers in Surat City

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ABSTRACT

The producers supplying milk to consumers and traditional middlemen (Category-I) had competetiveness to pull on their business, while the other group to certain extent had withstood though not totally because of negative returns. The average cost of buffaloe's milk per animal per year accounted to Rs.5,866.98. It was higher (Rs. 6214.68) in category-I as compared to category-II (Rs. 5614.44). The per litre cost of production increases with increase in farm size and it was higher in category-I as compared to category-II. All the farm size groups in category-I were operating profitably. The small and medium size farm groups of category-II covered only Cost-A and Cost-B whereas in the large size farms groups even Cost-A_1 was not covered.

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INTRODUCTION

The dynamic situation in the country has increased the importance for studies on costs and returns pattern in milk production. These studies are in immediate need in all the states to have a rational pricing policy. From the policy point of view, the costs and returns structure on dairy farms is an important aspect for the producers, consumers and policy makers. To keep the producers in production, the remunerative price for their product based on cost of production is also an important criterion. Therefore, the price of milk based on production costs is an important factor in influencing the level of milk production and income of producers. The present study was undertaken with the following objectives :

(i) To study the costs and returns in urban milk production per animal per year in different dairy farm size groups and for different categories of milk producers. (ii) To study the costs and returns pattern per litre of milk production for different categories of milk producers and in different dairy farm size groups.

MATERIALS AND METHODS

The present investigation on costs and returns of urban milk production was carried out in Surat City. The sample consists of 60 buffaloe's milk producers of Surat Milk Producers Co-operative Union, Surat City. These milk producers were categorised into two categories based on milk sales to different agencies. The first category (Category-I) consists of producers selling milk to middlemen and consumer's, the second category (Category-II) consists of producers selling milk to co-operative society. The first category consists of 25 sampled producers and second category 35 sampled producers.

The samples producers were also grouped into three groups in each category, based on the number of animals with each producer. Group-I consists of small size farm group (having less than 30 animals) Group-II consists of medium size farm group (having 30-60 animals) and Group-III is large size farm group (having more than 60 animals). The costs and returns were estimated for groupwise and also categorywise. The data was collected for the year 1980 by personal interview method with the help of well designed survey schedules.

Costs Estimation

The cost of production of milk is worked out according to the cost concepts given below :

(I) Cost-A_1 :
It includes, value of green fodder, dry fodder, concentrates, paid labour, depreciation on animals, sheds and equipment, veterinary and medical charges, water, electricity and repairing charges and interest on working capital.

(II) Cost-A_2 :
Cost-A_1 + rent paid for leased in sheds.

(III) Cost-B :
Cost-A_2 + interest on fixed capital invested.

(IV) Cost-C :
Cost-B + imputed value of family labour.

(V) Net Cost = Gross Cost - Value of dung.

Income Estimation

Income over different costs is worked out as under :

(I) Gross income :
It includes the income realised from the sales of milk and the value of dung.

(II) Farm business income :
Gross Value of output - Cost-A_1

(III) Return to family labour :
Gross Value of output - Cost-B.

(IV) Net returns :

RESULTS AND DISCUSSION

Costs Estimation

The different types of costs are worked out per animal per year for different size farms and for different categories of milk producers (Table-1). The data in the table show that on an average Cost-A_1 per animal per year was Rs.5208.18 for over all the size groups. Cost-A_1 was higher in Category-I, i.e. Rs.5,544.90 and lower in Category-II i.e. Rs.4,959.30 per animal per year. It was greater in small size farm group of Category-I as compared to the rest of the groups i.e. Rs.5,612.40 and lower in small size farms of Category-II (Rs.4,813.20). In the present study Cost-A_2 was not studied because the shed were owned by the producers themselves and hence no rented dairy sheds were present. Therefore Cost-B was estimated directly after Cost-A_1.

Cost-B was higher in large size farm group (Rs.5,954.82) and lower on medium size farm group (Rs.5,621.76). Cost-B accounted to Rs. 6,024.36 in Category-I and Rs.5,449.74 in Category-II per year. Cost-B was also greater in small size farm group of Category-I. All the farm size groups of Category-I had higher expenditure on Cost-B as compared to the farm size groups of Category-II.

Irrespective of the farm size group and Categories, the average total cost (Cost-C) per animal per year accounted to Rs. 5,886.98. The Cost-C for different farm size groups in Category-I and II show that it was higher in small size farm group of Category-I and lower in medium size farm group of Category-II. In Category-II the large size farm group had higher cost of maintenance than rest of the groups. The higher total cost of maintenance was due to higher expenditure incurred on feeding and also slightly higher capital investment than rest of the groups.

The per litre cost of production for different farm size groups showed positive relationship with farm size (Table-1) i.e. with increase in farm size, the per litre cost of production increased. Large size farm group of Category-II had higher cost of production per litre (Rs. 3.23) followed by small size farm group of Category-I (Rs. 3.01). In case of Cost-A and Cost-B, the same groups had high values respectively. Low cost of production per litre was observed in small size farm group of Category-II for all types of costs.

Returns over different types of costs

The returns over different types of costs viz., Cost-A_1, Cost-B and Cost-C for different categories of producers and for different farm size groups are presented per animal per year and per litre of milk production in Table-3. The returns over different costs indicated that all the farm size groups in Category-I, were operating profitably. Net returns were more in large size farm group of Category-I (Rs. 366.73). In small and medium size farm groups of Category-II upto Cost-A_1 and Cost-B were covered though Cost-C was not covered. While in large size farm group of Category-II even Cost-A_1

TABLE 1

Cost of maintenance in different farm size groups for different categories of milk producers (1980).

(Amount in Rs.)

Category	*Category-I*			*Category-II*			*Overall*		
Farm size group	*Cost-A_1*	*Cost-B*	*Cost-C*	*Cost-A_1*	*Cost-B*	*Cost-C*	*Cost-A_1*	*Cost-B*	*Cost-C*
Per animal per year :									
Small	5612.40	6081.29	6356.20	4813.20	5295.10	5513.79	5156.94	5632.74	5866.98
Medium	5523.60	5982.76	6163.44	4873.29	5358.69	5512.64	5145.96	5612.76	5782.80
Large	5500.24	6002.46	6149.53	5427.25	5922.40	6021.74	5457.06	5954.82	6071.94
Over all groups	5544.90	6024.36	6214.68	4959.30	5449.74	5614.44	5208.18	5687.64	5866.98
Per litre .									
Small	2.66	2.88	3.01	2.24	2.46	2.56	2.42	2.64	2.75
Medium	2.50	2.72	2.80	2.28	2.50	2.58	2.45	2.68	2.76
Large	2.62	2.85	2.92	2.91	3.17	3.23	2.78	3.03	3.09
Over all groups	2.67	2.90	2.99	2.37	2.61	2.69	2.50	2.73	2.82

Source : Field Survey.

was not covered. Thus, it was clearly evident that due to higher cost of production in large size farm group of Category-II even Cost-A_1 was not covered while in small and medium size farm groups due to low cost of milk production Cost-A_1 and Cost-B were covered to certain extent. The returns per litre of production also indicated the same pattern.

It was clear from the above discussion that the producers supplying milk to consumers and traditional middlemen (Category-I) had competitiveness to pull on their bussiness, while the other group to certain extent had withstood though not totally because of negative returns. It was interesting to note here the recommendations of National Commission on Agriculture (1976) which will be helpful to certain extent to understand the role of costs and returns structure in organised dairy sector. In the opinion of the Commission, "the purchase and selling prices of milk in the organised sector for milk and milk products have also often not been competitive with those of traditional sector. Organisation and modernisation of dairying have only added to the cost of marketing milk rather than increasing productivity, therefore, the competitiveness. In short, it can be stated that the pricing problems of organised dairying sector stem primily from the fact that its prices have not stimulated productivity".

The long extract from the report of the commission points out that the prices of milk in organised dairy sector were neither competitive with traditional sector nor they stimulated productivity. Hence the prices of organised sector should be competitive with others selling prices of milk, a necessary condition for its success. The findings of the present study also emphasises the same, that due to price differentiation existed between the co-operative society and other traditional middlemen, the producers supplying milk to the former may not be competitive with the producers supplying milk to the later. Further analysis of correlation co-efficients also support these findings. The presence of traditional middlemen and producers selling milk directly to the consumers is a common factor in our urban demand centres.

TABLE 2

Gross income in different farm size groups for different categories of producers (1980).

(in Rupees)

Group	*Category-I*	*Category-II*	*Overall categories*
Per animal per year :			
Small	6481.45	5408.25	5873.42
Medium	6240.63	5386.60	5780.65
Large	6516.26	4771.59	5455.15
Overall groups	6401.34	5263.08	5760.84
Per litre :			
Small	3.07	2.52	2.75
Medium	2.84	2.52	2.76
Large	3.09	2.56	2.78
Overall groups	3.08	2.52	2.76

Note : Gross income estimated at Rs.3.00 per litre of milk and Rs.2.44 per litre for category I and II respectively.

Source : Field Survey.

TABLE 3

Returns over different costs in different farm size groups for different categories of producers.

(Amount in Rs.)

Category	*Category-I*			*Category-II*			*Overall*		
Farm size groups	*Returns over Cost-A_1*	*Returns over Cost-B*	*Returns over Cost-C*	*Returns over Cost-A_1*	*Returns over Cost-B*	*Returns over Cost-C*	*Returns over Cost-A_1*	*Returns over Cost-B*	*Returns over Cost-C*
Per animal per year :									
Small	869.05	400.16	125.25	595.05	113.15	-105.44	716.48	240.68	6.44
Medium	717.03	257.80	77.19	513.31	27.91	-126.04	634.69	167.89	-2.15
Large	1016.02	513.80	366.73	-655.66	-1150.81	-1250.15	-1.91	-499.67	-616.70
Overall	856.44	376.98	186.66	303.78	-186.66	-351.36	552.66	73.20	-106.14
Per litre :									
Small	0.41	0.19	0.06	0.27	0.05	-0.04	0.33	0.11	0.00
Medium	0.32	0.12	0.04	0.24	0.01	-0.06	0.31	0.08	0.00
Large	0.48	0.24	0.17	-0.35	-0.62	-0.67	0.00	-0.25	-0.31
Overall	0.41	0.18	0.09	-0.15	-0.09	-0.17	0.26	-0.03	-0.06

Source : Field Survey.

ABLE 4

eld, income and returns per animal per day in different categories of producers (1980).

(Amount in Rs.)

Sr. No.	Item	Category-I	Category-II	Overall the Categories
1	2	3	4	5
1.	Average milk yield (Litres)	5.67	5.70	5.69
2.	Income from milk (Rs.)	17.02	13.90	15.25
3.	Income from dung (Rs.)	0.47	0.48	0.49
4.	Gross Income (Rs.)	17.49	14.38	15.74
5.	Cost-C (total cost) (Rs.)	16.98	15.34	16.03
6.	Net Cost (Rs.)	16.51	14.86	15.54
7.	Net returns	0.51	-0.96	-0.29
8.	Return from milk (excluding income from dung)	0.04	-1.44	-0.78

The values of 'r' between size of dairy farm and ross cost, per litre cost of milk, gross income and et income were +0.0694; +0.0533; -0.1311 and 0.0619. These calculated values of 'r' were onsignificant at both 5 per cent and 1 per cent evels. Thus it can be concluded that the dairy farms elonging to any size were equally influenced by ross cost, per litre cost of milk, gross income and t income to the milk producers of the both tegories. The mean differences tested with 't' test vere also expressed non-significantly. It was also bserved that the gross income of two categories of nilk producers were significantly differed at 1 per nt level with Rs.17.49 paise per animal per day for tegory-I and Rs.14.38 for category-II (Table-4). It vas clear from the above discussion that the roducers supplying milk directly to dairy (category-I) can not with stand the competitiveness of the roducers of category-I due to the negative net eturn to them, while the producers belonging to the Category-II, who had positive net return can easily ull on with their business.

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