C H A P T E R - V

Results and Discussion
Part I

Results and discussion: The data regarding important characteristics of milk producers, such as age, education, size of land holding and occupation as the basic characteristics concerned with dairy occupation have been presented and discussed in this part.

5.1 Age : Age is one of the important characteristics that decides the likings and dislikings and enthusiasum for work and new ideas. The sample milk producers are therefore, grouped according to their age and presented in table-1.

Table No.3 : Distribution of sample milk Producers accordingly to their age (1981-82)

Age groups years	No. of farmers	Percentage
£££ 1	2	3
up to 30	21	30.00
31 to 45	31	44.29
46 and above	18	25.29
Total	70	100.00

From the data presented in the above table, large percentages of milk producers were seen from the age group of 31 to 45 (44.29 %) followed by up to 30 (30 %) and 46 and above(25.29%) age groups. It is clear from the observation that more than

45 % milk producers were in the age group of 31 to 45. This shows that the mature persons are involved in dairy business, the number of persons below 30 years and above 46 years of age being relatively small.

5.2 EDUCATION : The level of formal education attained by individual tends to influence the extent to which he is exposed to new idea through the use of various communication channels. Education helps as means of securing new knowledge and new ideas. A level of formal education may hinder adoption of new skills and attitudes of an individual. The education levels achieved by the milk farmers is presented in the table.

(See table 14)

It is seen from the data that only 14-29% of the milk producers were illiterate while all others were educated. On the whole, 42.86, 24.29, 18.57% milk producers have education up to primary, secondary and Collegate levels respectively.

5.3. SIZE OF LAND HOLDING : In rural areas every villager tries to own some land as it serves to provide a source of agricultural production and income from it. It also brings status to him in the society hence, the data regarding land holdings owned by milk producers are presented in table-5.

Educational status of the sample households
(1981-82)

Size class of holding	Primary	Secondary	Collegiate	Illiterate	Total
1	2	3	4	5	6
Landless	3 (33.33)	3 (33.33)	2 (22.22)	1 (11.11)	11 (100)
Small	7 (31.81)	5 (22.73)	5 (22.73)	5 (22.73)	22 (100)
Medium	17 (65.38)	3 (11.54)	4 (15.38)	2 (7.69)	26 (100)
Large	3 (23.08)	6 (46.16)	2 (15.38)	2 (15.38)	13 (100)
Overall	30 (42.86)	17 (24.29)	13 (18.57)	10 (14.29)	70 (100)

(Figures in the bracket indicate the percentage to the total).

Table No.5 : Distribution of milk producers into different groups, according to their land holdings.

Sr.No.	Size of land holding	No. of milk producers	Percentage
1	2	3	4
1.	Landless	9	12.86
2.	Small (0.01 to 2.00 Ha)	22	31.43
3.	Medium (2.1 to 3.50 Ha)	26	37.14
4.	Large (3.51 Ha and above)	13	18.57
	TOTAL	70	100.00

It is revealed that the above data there were only 12.86 percent milk producers landless, labour while others were possessing land. It is seen from the size of land holdings that more than 55% milk producers were having more than 2 hectors of land while the 31.46 percent milk producers owned land less then 2 hectors each. Since, this region mainly depand on manson rains the land is conveniently diverted for growing grasses and providing grazing facilities. This might be one of the cause why dairy farming has become a good source of income in this area.

5.4 OCCUPATION : Occupation provides employment, income and status of the human beingns in the society Dairying in India is subsidiary occupation in agriculture. Hence, the data of milk producers are grouped according to their primary and subsidiary occupation and the same are presented in table.

TABLE NO.6 : Distribution of milk producers into different groups according to their occupations.

	Primary occupation			
	FARMING	DAIRY	SERVICE	TOTAL
Farming	-	-	-	-
Dairy	64	3	2	69
Labour	-	1	-	1
TOTAL :-	64	4	2	70

It is seen from the data in table 5.4 that, 91.43% of milk producers have farming as primary occupation and dairy as subsidiary one. 5.71 % milk producers had dairy as primary occupation and 2.86 % milk producers had service as the parimary occupation.

It is also seen from the table that more than 90 % of the milk producers had dairying as a subsidairy occupation milk producers and their families find dairying as a source of additional income and employment as well as through out the year. The dairy occupation thus created additional employment opportunities in the rural area.

5.5. INVESTMENT IN DAIRY ENTERPRISE :

Investment in dairy enterprise comprises of investment in milch animals, investment in cattle shed and dairy equipments. The investment in livestock and other assets per milk producer

TABLE-7:Per Milk Producer average capital investment in dairy enterprise

(1981-82)

Size class of holding.	Investment of milch animals Rs	investment on cattle shed Rs	Dairy equipment and utensils Rs	Total investment Rs
1	2	3	4	5
Landless	3325.44 (81.30)	650.00 (15.90)	114.77 (2.80)	4090.21 (100)
Small	3912.77 (79.01)	917.78 (18.53)	121.45 (2.46)	4952.00 (100)
Medium	4273.77 (80.97)	888.27 (16.84)	115.85 (2.19)	5277.89 (100)
Large	4099.00 (75.70)	1199.53 (22.15)	116.15 (2.15)	5414.68 (100)
Overall	3902.74 (79.24)	913.89 (18.36)	117.06 (2.40)	4933.69 (100)

(Figures in the parenthesis indicate the percentage of total.)

and per milch animal will vary according to the resources of different categories of milk producers. The investment per milk producers in dairy enterprise is given in table 5.5.

At the overall level to total investment in dairy occupation was Rs.4,933.69 per milk producer which comprised Rs.3,902.74 as value of milch animals, as investment in cattle shed of Rs.913.89 as investment in Rs.117.06 dairy equipment and utensils.

At the overall level, the total investment per milch producer worked out to Rs.4,933.69. The share of investment in milch animals cattle shed and dairy equipment in the total investment was 74.24, 18.36, 2.40 percent respectively. The relative proportion of capital investment in different size holding milk producers in all the aspects of dairy enterprise should be increasing trend with the increase in the size holding.

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PART-II

In order to fulfil the objectives of the study, the relevent data were collected from the milk producers as per the methodology outlined in chapter 3 and the results of analysis are discussed in this chapter. The results are discussed under the following major sub-heads :

5.6 Lactation length, dry period and calving interval,

5.7 Feed input per cow per day,

5.8 Labour utilisation.

5.9 Maintenance cost of Jersey cow,

5.10 Break-up of total cost of milk production of Jersey cow,

5.11 Milk production,

5.12 Returns,

5.13 Per litre cost of milk production,

5.14 Profits,

5.15 Output - input ratio

5.16 Break-even point.

These results are presented seperately for cow, according to size class of holding milk producers.

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5.6 Lactation length, dry period and calving Interval.

The Intercalving period is the period between the two consecutive calvings. It includes both lactation length and dry period. A lower calving interval is considered to be a great advantage to a farmer from the point of decreasing the per unit cost of milk production and increasing the profit margin. The calving interval has been considered the basis for estimation, of inputs, such as feed, fodder and labour, total milk production and production efficiency for Jersey milch cows Maintained by different categories of milk producers. The lactation length (milking days) and dry period for Jersey cow is given in table 8.1.

Table No.8 : Average Milking Days and Dry period as well as Calving to Calving period for Jersey Milch Cows

Size class of holding	Milking period	Dry period period	Intercalving period
1	2	3	4
Landless	296	67	363
Small	304	61	365
Medium	302	65	367
Large	300	66	366
Overall	300.50	64.75	365.25

It can be observed from table 4.8 that the average intercalving period is 363 to 367 days, having lactation length of 296 to 304 days, when the dry period was 61 to 67 days.

The maximum intercalving period was in case of the farmer milk producers as compared to the landless category milk producers. The dry period was higher in case of landless category milk producers as compared to farmer category milk producers.

The lactation length (milking period) was maximum (304 days) in case of small holding size groups milk producers and the minimum (296 days) lactation length was observed in case of the landless category milk producers.

At the overall level, the lactation length and intercalving period were slightly more incase of farmer category milk producers as compared to landless category milk producers.

5.7 COST AND RETURNS :

The study of costs and returns of any dairy enterprise farms an important base in determining the profitability of dairy business. The study of costs and returns gives a detail financial position of business. Thus cost and returns are important economic criteria for cecoganizing the business on

profitable lines. For this purpose, the total cost, working cost, net cost, gross returns and net returns are worked out both for a unit of milk and also for a cow per intercalving p per day.

(i) Feed Input for Milch animal : Feeds and fodders play a vital role in the livestock production, in general, and milk production, in particular. Chronic shortage of feeds and fodder in our country has lowered the productive capacity and fertility of livestock and has brought about their degeneration. The milk producers follow their own feeding practices which largely depend upon the seasonal availability of feeds and fodder. The pattern of utilisation of these inputs for Jersey cow is discussed below in detail in order toget clear picture of the cost of milk production.

(ii) Feed and Concentrates : The lucerne, maize, green grass and sugarcane tops were the main types of green fodder. Jawar and Bajra Kabdi were main forms of dry fodder. The main commercial feeds were Godrej and Sugrass milk rations. The concentrates comprised mainly of commercial feed ration and rice bhusa in varying proportions in different size groups of milk producers. Besides, farmers were using deoiled cakes and ingraded coarse grains like jawar, bajra etc as concentrates. (see table 9)

Table No.9 : Per Cow per intercalving and per day quantity of feed(Kgs)

Size class of holding	Dry fodder		Green fodder		Concentrates		Total cost	
	Inter-calving period	per day	Inter calving period	per day	Inter-calving period	per-day	Inter-calving period	per-day
1	2	3	4	5	6	7	8	9
Landless	2383.01	6.56	3462.22	9.54	936.40	2.58	6781.63	18.68
	Rs.-(866.55)	(2.39)	(911.11)	(2.51)	(1337.78)	(3.69)	(3135.44)	(8.59)
Small	2674.38	7.33	3744.02	10.26	918.06	2.51	7336.46	20.10
	Rs.- (972.50)	(2.66)	(1069.72)	(2.93)	(1331.18)	(2.65)	(3373.40)	(9.24)
Medium	2430.59	6.62	3688.78	10.05	939.52	2.56	7055.89	19.23
	Rs.-(883.85)	(2.41)	(1053.08)	(2.87)	(1362.30)	(3.71)	(3299.23)	(8.99)
Large	3056.74	8.35	3607.70	9.86	984.77	2.69	7649.21	20.90
	Rs.-(1111.54)	(3.04)	(1030.77)	(2.82)	(1427.92)	(3.90)	(3570.23)	(9.76)
Overall	2636.18	7.21	3625.68	9.92	944.69	2.58	7205.80	19.73
	Rs.-(958.61)	(2.62)	(1016.17)	(2.78)	(1369.80)	(3.73)	(3344.58)	(9.13)

(Figures in bracket indicate value of respective feed in rupees.)

From table 9 it was observed that the average quantity of dry fodder feed during intercalving period was 2983.01 kg. 2674.38 Kg. 2430.59 Kg and 3056.74 Kg. per cow in case of the landless, small, medium and large holding size groups of milk producers, respectively. During the intercalving period the former categorymilk producers fed relatively higher quantity of dry fodder to the Jersey cow as compared to the landless category milk producers. It was also observed that the per day quantity of dry fodder fed to Jersey cow was maximum in case of the farmer category milk producers as compared to the landless category milk producers.

It could be seen from the table that the average quantity of green fodder fed during the interecalving period was 3462.22 Kg. 3744.02 Kg., 3688.78 Kg. and 3607.70 Kg. per cow in case of the landless, small medium and large holding size groups of milk producers respectively. However, the per cow per day quantity of green fodder fed was the highest in case of the farmer category milk producers. The least amount of green fodder per day per cow was fed by the landless category milk producers, per day average quantity of green fodder fed and size of herd showed positive relationship in case of all the milk producers, respectively.

During the intercalving period, the average quantity of concentrates fed per cow was worked out to 936.40 Kg. 918.06 Kg. 939.52 Kg. and 984.77 Kg. in case of the landless,

small, medium and large holding size groups of milk producers, respectively. It was also observed that per intercalving period and per day, per cow, quantity of concentrated varied within a narrow margin in case of all the milk producers, respectively.

It is evident from the above discussion that the farmer category of milk producers fed maximum quantity of dry fodder, green fodder and concentrates, per day to the milch cows as compared to the landless category milk producers. It was also observed that the average milch cow is fed better by farmer category of milk producers as compared to milk producers from landless ⁂ category. The land holders are able to offer green fodder and dry fodder to the cattle than of the landless farmers because of their strong financial condition and own land.

(iii) Feeding cost :

On the basis of quantities of feed and fodder fed during the intercalving period of Jersey cow, the total cost of feeding was worked out seperately, for different categories of milk producers. The details of feeds and concentrates in terms of their cost per cow during intercalving period per day, per cow are presented in table 9.

It may be noted from the table that the average feeding cost per cow, per intercalving period was Rs.3135.44,

3377.40, 3299.23 and Rs. 3570.23 in case of the landless small medium and large holding size groups of milk producers respectively. It was observed that the cost of feeding of Jersey cow in case of the farmer category milk producers was the higher as compared to that of landless category milk producers. As far as feeding and concentrates are concerned there was no significant difference between the farmer - category milk producers respectively.

At the overall level, the per cow per day cost of green fodder, dry fodder and concentrates was Rs.2.62, 2.78, 3.73 respectively. The total cost of feed and fodder per cow per day at overall level, worked out to Rs.9.13. It was further observed that proportion of cost of concentrates in the total feed cost was the highest followed by green fodder and dry fodder respectively. So also the case of total concentrates's feed cost i.e. Godrej/ Sugrass are higher in price than that of green grass or dry fodder. Thus cost required to be paid ~~to be paid~~ in comperatively higher than that of the grass and dry fodder.

5.8 LABOUR AND LABOUR COST :

For maintaining dairy animals labour for specific period in performing various services is necessary. But the labour requirement is not of a continuous nature during the year and even during the days. It is variable as per the

TABLE - 10 : Per day, Per Cow Labour charges during interclaving period.

Size Class	Male		Female		Total days		Total labour cost	
	Inter-claving period days	Per-day Hrs.	Inter calving period days	Per-day Hrs.	Inter calving period days	per-day Hrs	Inter calving period days	Per-day Hrs.
1	2	3	4	5	6	7	8	9
Landless	109.50	2.41	51.45	1.13	160.95	3.54	917.18	2.53
Small	114.20	2.50	42.65	0.93	156.85	3.44	922.73	2.53
Medium	120.15	2.62	38.85	0.85	158.90	3.47	925.00	2.52
Large	126.30	2.76	34.17	0.75	160.17	3.51	926.92	2.53
Overall	117.30	2.57	41.78	0.91	159.21	3.49	923.42	2.53

type of operation in view and the breed under study. Labour is an important item of cost of milk production. The quantum of labour input, type of labour utilised and the prevailing wage rats are important factors on which the cost of labour in milk production depends. The major items of work for labour feeding, cleaning of byre, milking deliverying of milk at the society and other miscelleneous work. The labour utilisation per lactation, per cow, per day is given in table No.10.

(i) Pattern of labour utilisation :

The labour utilisation and labour costs for Jersey cow in according to size class of holding milk producers are presented in table 10.

It is revealed from the table that the average labour input during intercalving period was 160-95 days, 156-85 days 158-10 days and 160-17 days per cow in case of the landless, small, medium and large holding size groups of milk producers. The labour requirement was highest in case of the landless category of milk producer and lowest in case of small holding size groups category of milk producers. Total man days given above relate to the work day of man and woman put together.

There was no significant difference in the total labour utilisation of Jersey Cow among different holding size groups

of milk producers, during intercalving period. The average per day hours spent for cow were 3.44 to 3.53 hour in all the category of milk producers, respectively. At the overall level, the male worker has engaged respectively for 109.50 days, 114.20 days, 120.15 days and 126.30 days for maintaining the cow in case of the landless, small, medium and large holding size groups milk producers. The per day average utilisation of male worker was highest in case of the large holding size groups milk producers and lowest in case of the landless category milk producers. It is showed the increasing ~~kax~~ trend with the increase in the holding size groups of milk producers.

The average female labour utilisation for intercalving period was worked out to 51.45 days, 42.65 days, 38.85 days and 34.17 days for cow in case of the landless, small, medium, and large holding size groups of milk producers, respectively. It is shown the decreasing trend with the increase in the size of holding respectively.

(ii) Labour cost :

The total labour cost during intercalving period was worked out for Jersey cow on the basis of the total days required per cow during intercalving period, the total cost of labour is given in table-10.

It is evident that the average labour cost was Rs.917.18, 922.73, 925.00 and Rs.926.92 for Jersey cow in case of the -

landless, small medium, and large holding size groups of milk producers. The labour cost for Jersey cow maintained by large holding size groups milk producers was higher as compared to the landless category milk producers.

In rural area we came across the phenomenon that is called disguised unemployment on large scale. In case of the farming the work is available only for five to six months; because it is dependent on rain. That is why it is necessary to have dairying as the subsidiary occupation to agriculture. In this way we can have an employment for remaining six months. The ways in the farming are comparetively less than in other business. If the opportunity cost in farming or in Dairying is less, cost of milk production is also negligible. That's why it will be profitable to have Dairy as a subsidiary occupation.

Under these circumstance the transfer arriving of these milk producers can be considered to be less than the prevaling wages, and if we take into account this factors, the dairying as a occupation is very likely to be profitablity. But if we accept the existence of the phenomenon that is known is disguised unemployment, the transfer arriving of a member of milk producer will be less than what is waranted by the - previling wages rate.

This ultimate result of this will be that dairying as an occupation cannot be as unprofitable as it has been proved by the various cost contents.

TABLE NO.11 : Per intercalving cost of maintenance of Jersey Cow or Breakup of total cost of milk production intercalving period for Jersey Cow

Size class of holding	Feed and fodder Rs	Labour charges Rs	Vet.Expn. Rs	Total working cost Rs	Inter. on fixed capital Rs	Depre. on animalas Rs	Total fixed cost Rs	Total cost Rs	Income from dung Rs	Net Cost Rs
1	2	3	4	5	6	7	8	9	10	11
Landless	3135.44	917.78	183.33	1236.25	409.02	154.56	563.58	4800-13	197.78	4602.35
	(65.32)	(19.11)	(3.82)	(85.25)	(8.54)	(3.21)	(11.74)	(100)		
Small	3373.40	922-72	221-59	4517-71	495-20	195-22	690-42	5208-13	196-82	5011-31
	(64.78)	(17-71)	(4.25)	(86.74)	(9.51)	(3.75)	(13.26)	(100)		
Medium	3299.23	925.00	173.50	4397-73	527-79	158-88	686-67	5084-40	177-69	4906-71
	(64-89)	(18.20)	(3-41)	(86.50)	(10.38)	(3.12)	(13.50)	(100)		
Large	3570-23	926-92	145-92	4645-07	541-47	169-07	710-54	5354-14	198-46	5155.68
	(66.69)	(17.31)	(2.72)	(86.73)	(10.10)	(3.17)	(13.27)	(100)		
Overall	3351-91	927-71	184-75	4448-69	493-37	171-64	662-80	5111-70	190-14	4919-01
	(65.42)	(18.08)	(3.55)	(87.05)	(9.64)	(3.31)	(12.95)	(100)		

5.9 MAINTENANCE COST OF JERCY COW

The important items of gross maintenance cost were on account on feed and fodder hired labour and family labour depreciation on animals and diry assets, interest of fixed capital, minus income from dung. The itemwise expenditure had been worked out for milch cow is presented in table-11.

It is observed that from the data presented in table No.11 that the gross maintenance cost during interecalving period was Rs.4800/13, Rs.5208/13, Rs.5084/40 and Rs.5354-14 per cow in case of the landless, small, medium and large holding size groups of milk producers. The average maintenance cost of interecalving period was higher in case of the large holding size groups milk production. There was positive relationship between the per cow maintenance cost of cow in case of landless and farmer category milk producers.

It is evident from the table that the average per day maintenance cost worked out to Rs.13.14 to 14.67 in case of the landless, small, medium and large holding size groups milk producers and least in case of the landless category milk producers. Per day maintenance cost showed the increase trend with increase the holding size groups. As land holders are able to afford the investment in the fixed capital i.e. land under special cultivation of grass, employment of -

labourers especially for cattle etc. and thus they are able to give more green fodder, dry fodder and concentrates to their cattle. Ultimately it affects the investment in the fixed capital. Such case is not with the landless category of farmers and with their dairy business.

It is also observed from the table that, eventhough the total cost of milk production in case of farmer category milk producers was more as compared to the landless category milk producers. This may be result of more availability of fodder reasources and feeding in farmers category milk products.

5.10 : Break-up total cost of milk production for Jersey Cow according to size class of holding

Itemwise break-up of the per cow, total cost of production of milk for interealving period are worked out and presented in the table-12.

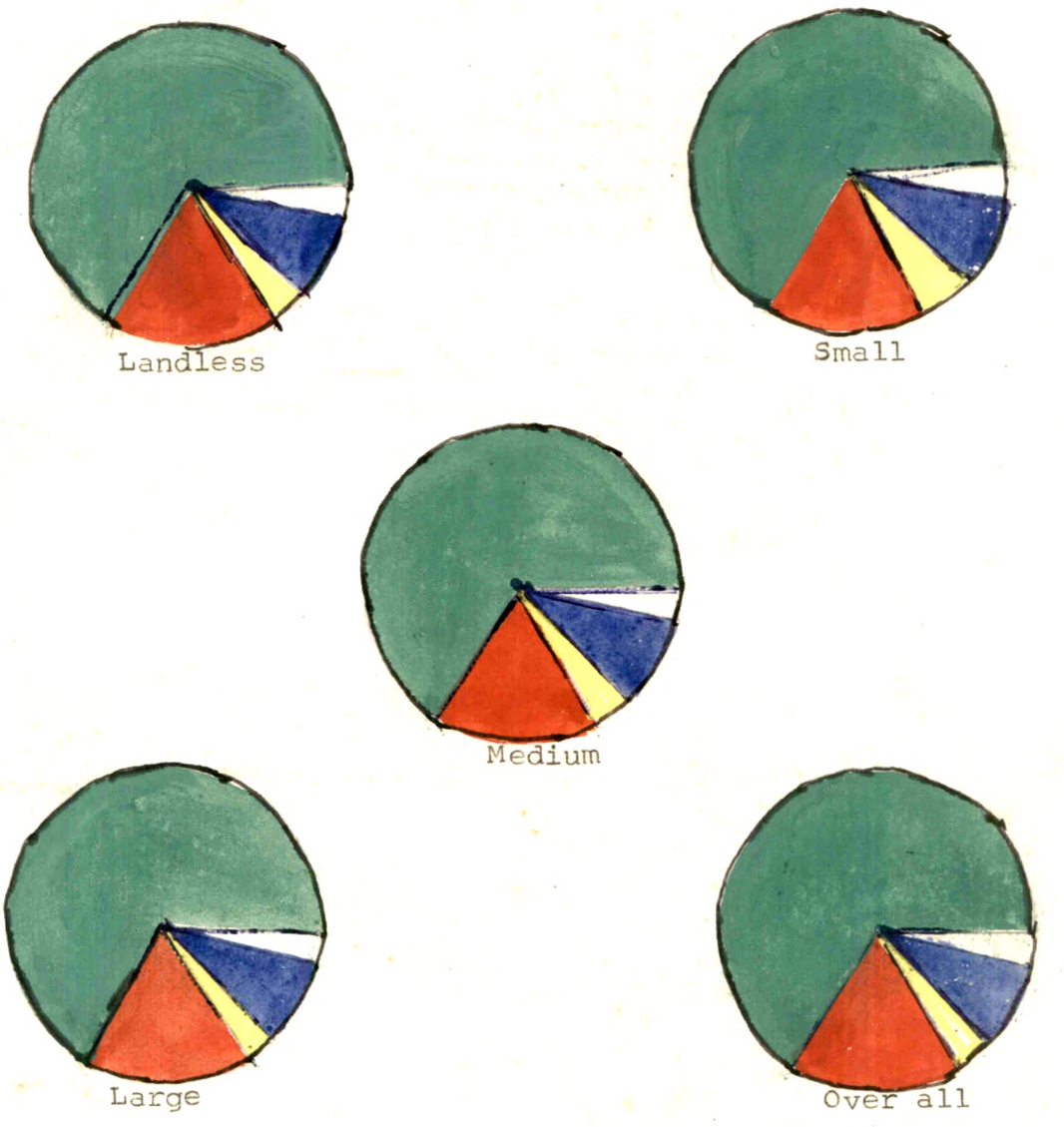
The average total cost includes cost of feeding, labour, veterinary expenditure, interest on fixed capital, depreciation on animals, utensils and dairy assets etc.

It is seen from the data that the average total cost of milk production of Jersey cow was Rs.400-13(100%) in case of the landless milk producers, out of this cost feeding cost (65.32 %), labour cost(19.11 %), vererinary expenses(3.82 %),

TABLE No.12 : Per day cost of milk production during intercalving period of Jersey cow according to size class of holding (Rs)

Size class of holding	Feed and fodder cost	Labour charges	vet, expsn,	interest on fixed capital	Depre. on animal	Total cost	Income from dung	Net cost
1	2	3	4	5	6	7	8	9
Landless	8.64	2.53	0.50	1.13	0.43	13.23	0.54	12.69
Small	9.24	2.53	0.61	1.36	0.53	14.27	0.54	13.73
Medium	8.99	2.52	0.47	1.44	0.43	13.85	0.48	13.37
Large	9.75	2.53	0.40	1.48	0.46	15.12	0.54	14.58
Overall	9.15	2.53	0.49	1.35	0.46	14.12	0.52	13.95

FIGURE - I : Break-up total of milch production for Jersey Cow. According to size class of holding.



interest on fixed capital (8.24 %) and depreciation on animals/utensils and dairy assets (3.21 %) respectively.

It is indicated from the table that the average total cost of milk production of Jersey Cow was Rs.5208.13 (100 %) in case of the small holding size groups of milk producers, out of this cost feeding cost (64.78 %) labour cost (17.71 %) veterinary cost (4.25 %) interest on fixed capital (9.51 %) depreciation on animals utensils and dairy assets (3.75 %) respectively.

It can also be noted from the table that the average total cost of milk production of Jersey cow was Rs.5084.40 (100 %) in case of the medium holding size group of milk producers out of this cost of feeding (64.89%), labour cost (17.71 %), veterinary expenses (4.25 %), interest on fixed capital (10.38 %), and depreciation on animals and utensials and dairy assets (3.12 %) respectively.

It could be seen from the table that the average total cost of milk production of Jersey cow was Rs.5354-14 (100 %) in case of the large holding size group of milk producers out of this cost, feeding cost (66.69%), labour cost (17.31 %) veterinary expenses (2.72 %) interest on fixed capital(10.10%) and depreciation on animals utensials and dairy assets(3.17%) respectively.

It was observed that the on an average feeding cost of milk production was in farmer category of milk producers was more as compared to landless category milk producers. This may be resulted of more availability of fodder resources and feeding in farmer category milk producers.

It was also observed that the interest on fixed capital in case of farmer category milk producers more as compared to landless category milk producers. This may be result of more investment in dairy business in farmer category milk producers. Because farmers category milk producers economic condition good as compared to the landless category milk producers.

It could be seen from the table that for the depreciation on animals utensials and dairy assets was slightly more in farmer category milk producer as compared to landless category milk producers. Labour charges and veterenary - expenses items significant difference was not seen in case of the farmer category. Milk Producers and landless category Milk Producers.

Land owners are able to spare certain amount specially for their cattlesper year of or as per their requirement. This clearly helps for increment in the dairy assets such as Depreciation on Animal. Utnsails and and other valuable investment. This sort of facility could not be availed by the landless dairy producers, [redacted].

5.11 MILK PRODUCTION :

i) Milk production and profitability of Milch Jersey Cow :

The average daily milk yield for Jersey cow has been estimated by dividing the total milk yield by total milking days and also total intercalving period (including milking days and dry days) and is presented in table-13.

TABLE No.13: Average daily milk yield and total milk production from Jersey Cow.

Size of class holding	Total milk yield	Milking period	Calving period
1	2	3	4
Landless	1909.66	6.45	5.26
Small	2049.45	6.74	5.61
Medium	2027.57	6.71	5.52
Large	2037.71	6.79	5.57
Overall	2006.10	6.69	5.49

It is clear from table 13 that average total milk production during lactation period was 1909.66, 2049.45 2027.57 and 2037.71 litre for cow in case of the landless, small medium and large holding size groups of milk producers respectively. The total milk production per cow during lactation period was also more in case of the small holding size groups

of milk producers and least in case of the landless category milk producers. The average daily milkyield for the lactation period worked out respectively 6.45 ltr. 6.74 ltr., 6.71 ltr, and 6.79 ltr. For cow in case of the landless, small, medium and large holding size groups of milk producers. The average daily milk yield on the basis of total intercalving period was also worked out and it is shown to 5.26 ltr., 5.61 ltr, 5.52 ltr, [illegible] and 5.57 ltr. For cow in case of the landless, small, medium and large holding size groups milk producers respectively.

The total milk production per cow during lactation period was also more in case of the farmer category milk producers as compared to landless category milk producers. The data given in table revelaed that there was a significant relationship between the size of holding of dairy farmers daily milk produced by them. This might be due to the fact that the farmer category milk producers has own land might be in a better position to produce more milk. As compared to the landless category milk producers. A farmer possessing adequat land and grow fodder crops for maintaining his dairy animal well.

ii) Price of milk received by the milk producers

The milk prices vary with season and fat percentage. During the flush period (October to January) Government price

of milk was 2.15 per litre for cow milk, with 4.5 % fat. In lean period (April to July) Rs.2.60 per litre cow milk with 4.5 % fat, while in transit period(August to September) and February to March) the price was Rs.2.30 per litre for cow milk with 4.5 % fat, from the prices received by the milk producers, the average price for litre of milk was worked out Rs.2.35 per litre.

Swaminathan 1975 reported the same results indicating that the milk yield was found higher in case of marginal farmer and landless labours as compared to that observed in medium and large size holders.

5.12 RETURNS : Out put of milk and gross income per Cow during intercalving period.

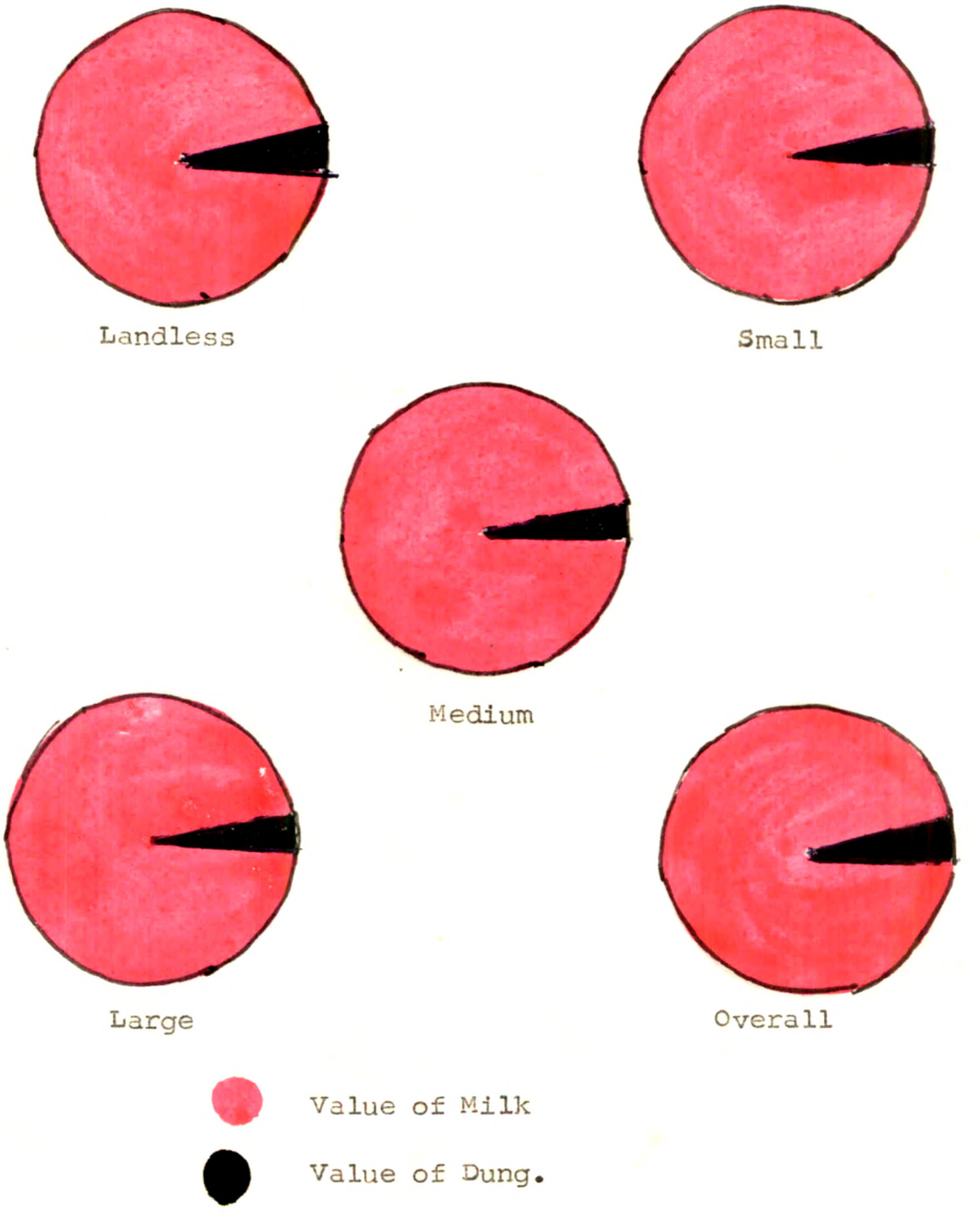
The gross returns include from milk and dung.The income from milk produced by Jersey Cow, during the inter-calving period, by that average price of milk and income from dung was estimated as per the methodology mentioned in - Chapter-III.

The gross returns per cow per intercalving are presented in table-14. It can be noted from the table that the average gross income worked and to Rs.4479.00, 4896.22, 4841-11 and 4803-47 in case of the landless, small medium and large holding size groups of milk producers, respectively. The -

TABLE NO.14 : Out-put of milk and gross income per cow during intercalving period.

Size class of holding	Milk litres.	Value of Milk Rs.	Quantity of dung Kg.	Value of dung Rs.	Gross income Rs.
1	2	3	4	5	6
Landless	1909.67	4281-22 (95.60)	2200	197-78 (4.40)	4479-00
Small	2049.45	4699.40 (95.99)	2180	196.82 (4.01)	4896.22
Medium	2027.57	4663.42 (96.33)	1900	177.69 (3.69)	4841.11
Large	2037.61	4605.01 (95.71)	2300	198.46 (4.29)	4803.47
Overall	2006.07	4521.24 (95.91)	2145	192.69 (4.09)	4754.95

FIGURE - II : Output of milk and gross income Per cow according to size class of holding.(Rs.)



average income from milk was the highest Rs.4699.40 in case of the small holding size milk producers and least 4281.22 in case of landless category of milk producers. At the overall level there was no significant difference in the income from dung from cow in all category of milk producers. The gross returns on an average were more in case of the farmer category milk producers as compared to the landless category milk producers. This might be due to the fact that farmer category milk producers has own land might be in a better position to produce more milk as compared to the landless category milk producers. A farmer possessing adequate land can grow fodder corps for maintaining his dairy animals.

5.13 Per litre cost of milk production:

Per unit total cost and net cost of milk production worked out. The net cost of milk production worked out by dividing net cost of milk production by the total quantity of milk produced during the lactation period.

Table 15 shows itemwise and according to size class of holding cost of producting one litre of milk from Jersey Cow.

It is observed from the table 5.8 that the average net cost during intercalving period worked out to Rs.4602.35,5011-31, 4906-71 and 5155-68 for cow in case of the landless, small, medium and large holding size groups of milk producers. It it

TABLE NO.15 : Break-up per litre cost of milk production for Jersey Cow. (RS)

Size of Class holding	Feed and Fodder cost	Labour charges	Vete.Expn.	Interest on fixed capital	Deptrn. on animals	Total cost	Income from dung	Net cost
1	2	3	4	5	6	7	8	9
Landless	1.64	0.48	0.09	0.21	0.08	2.51	0.10	2.41
Small	1.65	0.45	0.11	0.24	0.09	2.54	0.09	2.45
Medium	1.63	0.46	0.08	0.26	0.08	2.51	0.09	2.42
Large	1.75	0.45	0.07	0.27	0.08	2.63	0.10	2.53
Overall	1.67	0.46	0.09	0.24	0.08	2.54	0.09	2.45

also observed that the net total cost was more in case of farmer category milk producers as compared to landless category milk producers. Net expenditure on dairy produce like as provision of Green Fodder, Concentrates, Provision of dry fodder, investment in fixed capital is more in case of farmers having their own land. Land less; being financially weak, are unable to afford such type of expenditure.

It is indicated from the table that the average net cost per litre worked out Rs.2.41, 2.45, 2.42 and 2.53 for cow in case of the landless, small medium and large holding size groups of milk producers. It can be understood from the table that even though the per litre net cost of milk production for cow was the highest in case of the large holding size groups milk producers, and least in case of the landless category of milk producers. In case of the farmers category milk producers, per litre cost of production showed increasing trend with the increase in the size holding.

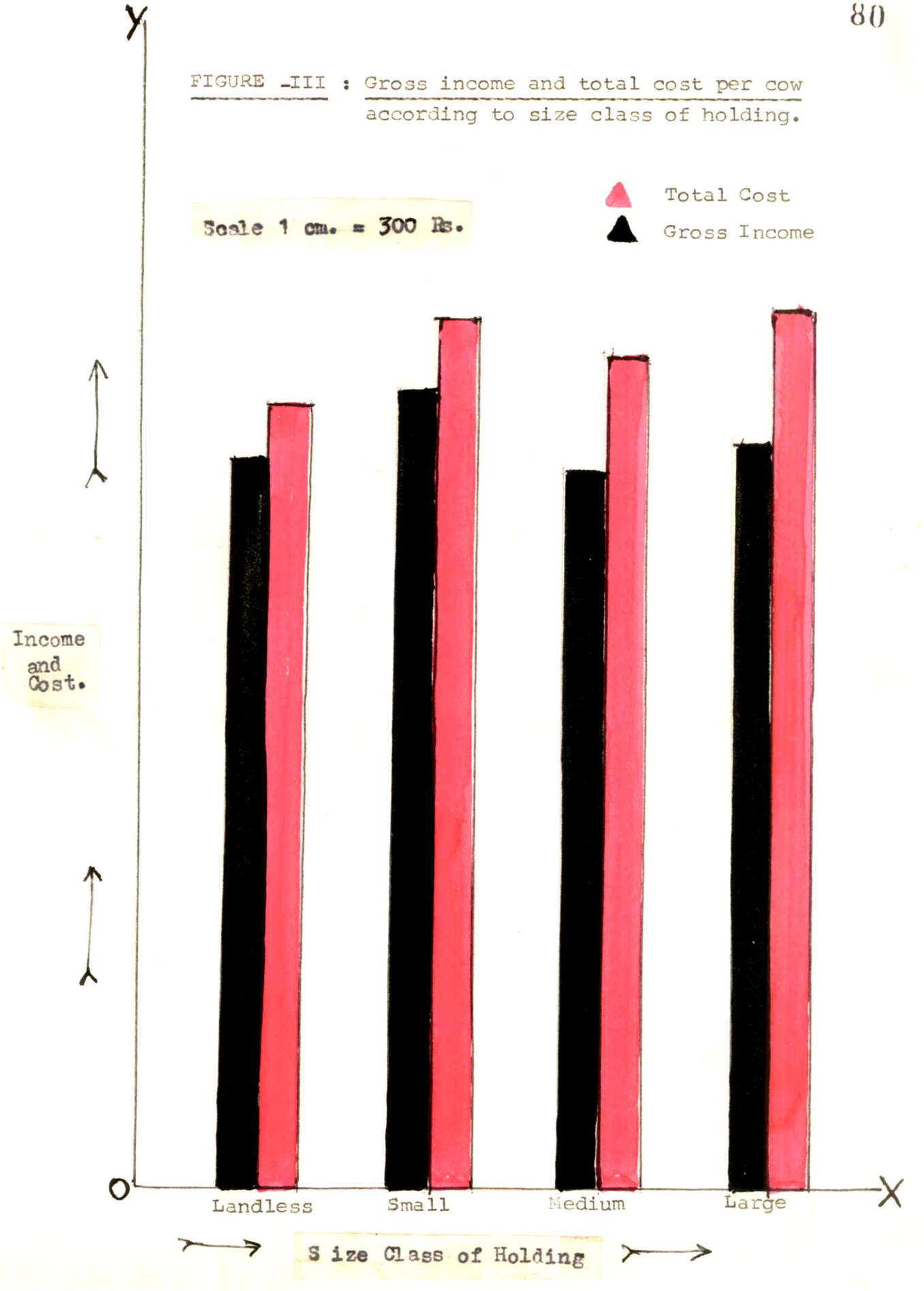
5.14 Profits : The profit or loss per cow during intercalving period and per litre was worked out for Jersey Cow respectively. Profitability of milch cows xper intercalving period and per litre of milk production is given in table 16.

From the table it was observed that on an average the net loss during intercalving period was worked out Rs.-321-13, -311.91, -243-29 and Rs.-550-67 for Jersey Cow in case of the

TABLE NO.16 : Per cow average profit or loss in intercalving period and per litre milk production from Jersey Cow (Rs.)

Size class of holding	Gross income	Total working cost	Total cost	Total profit or loss during intercalving period		Profit or loss per litre of milk.
				Over total working cost	Over total cost	
1	2	3	4	5	6	7
Landless	4479.00	4236.25	4800.13	+ 242.75	- 321.13	- 0.17
Small	4896.22	4517.71	5208.13	+ 378.51	- 311.19	- 0.15
Medium	4841.11	4397.73	5084.40	+ 443.36	- 243.29	- 0.12
Large	4803.47	4643.07	5354.14	+ 160.40	- 550.67	- 0.27
Overall	4754.95	4448.69	5111.70	+ 306.35	- 356.67	- 0.18

FIGURE -III : Gross income and total cost per cow according to size class of holding.



landless, small, medium, and large holding size groups of milk producers respectively.

It was also observed that the per cow, per litre, net loss ranged 0.12 to 0.27 all category milk producers. The highest loss for Jersey Cow in case of large holding size groups milk producers and least loss in case of the medium hilding size groups of milk producers. This may due to low productivity low per litre price and feed and fodder cost was high therefore, per cow per intercalving period and per litre losses all category milk producers.

It is observed that milk producers and dairy producers from all categories are running their business in loss during intercalving period, And if itis so; it is but obvious that a thought may enter in ones mind that Why they are running their business ? Why they do not able to stop their business? Are they intending to themselves in loss ? Are they are all social workers ? The answer of all these questions is 'NO' Though net loss is clearly visible we have not considered their working cost i.e. VARIABLE COST. An enterprenure always continues to run his business unless variable cost is less than the cost of product. It means unless variable cost can be derived from the cost of products en enterprenure will run the business. No sooner did variable cost increases that

of the net cost of the product he will have to stop the business. In the business of dairy and dairy products it only seems that each and every milk producer is running his business in loss. He is unnecessary substaining loss on provision of Green Fodder/Dry Fodder, concentrates etc. for cattles. But, in fact, no such case is there,

In rural area we came across the phenomenon that is called disguised unemployment on large scale. In case of the farming the work is available only for five to six months, because it is dependent on rain. That is why it is necessary to have dairying as the subsidiary occupation to agriculture. In this way we can have an employment for remaining six months. The ways in the farming are comparetively less than in other business. If the opportunity cost in farming or in Dairying is less, cost of milk production is also negligible. That's why it will be profitable to have Dairy as a subsidiary occupation.

5.15 Out put - input ratio : As output input ratio provides one of the measures of judge the efficiency of business.

Output input ratio at different cost levels for Jersey Cow is presented in the table-17.

TABLE NO.17 : Average output-input ratio for Jersey Cow.

Size Class of holding	Gross income	Total cost	Output-Input ratio
1	2	3	4
Landless	4479.00	4800.13	0.93
Small	4896.22	5208.13	0.94
Medium	4841.11	5084.40	0.95
Large	4803.47	5354.14	0.90
Overall	4754.95	5111.70	0.93

From the table it can be seen that average output input ratio at total cost was R.0-93, 0-94, 0-95, 0-90 for cow in case of the landless, small, medium and large holding size groups of milk producers respectively. It was also observed that upk output input ratio was losses.

Though the net returns are not attractive, it should be borne in mind that the cows maintained by the milk producers to provide employment to his family members, and also supply mannure to his field. Hence, the profit or loss from the dairy business should be viewed through this angle. Introduction of high yielding cows with better type of management may be changed this picture.

5.16 Breakeven point :

The breakeven point analyes was carried out to find out the price of milk, which covers just the cost of milk production.

The details of the break even price and level of milk production for Jersey Cow are presented in table-18.

It could be seen from the table that the present milk price are not remunerative because they did not cover the maintenance cost. They do not leave any incentive for the milk producer to produce more milk. To make milk production an economic position, it is necessary to rise the milk prodiction from 1909-67 to 2054-60 litres from 2049-45 to 2192-64 litres, from 2027-57 to 2133-35 litres and from 2037-61 to 2281-04 litres for cow in case of the landless, small, medium and large holding size groups milk producers.

From the above discussion, it is clear that the prevailing milk price are not remunerative for the milk producers maintaining Jersey Cow, cost of milk production could be minimised by maintaining exotic breeds, of milch cows. This could be further reduced by reducing the dry period and increasing the lactation period.

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TABLE NO.18 : Per cow break even price and break even level of milk production.

Size of class holding	Net cost of maintenance	Milk production ltr.	Current Rs.	Break-even price(Rs.)	Break-even level of milk production ltr.
1	2	3	4	5	6
Landless	4602.35	1909.67	2.24	2.41	2054.60
Small	5011.31	2049.45	2.29	2.45	2192.64
Medium	4906.71	2027.57	2.30	2.42	2133.35
Large	5155.68	2037.61	2.26	2.53	2281.04
Overall	4919.01	2006.07	2.27	2.47	2165.41