CHAPTER - IV

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INCOME AND EXPENDITURE PATTERN OF MILK PRODUCTION

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CHAPTER – IV

IMPORTANT FACTORS OF MILK PRODUCTION

4.1 INTRODUCTION

Milk production is generally depends on various important factors. Such as age, education, size of landholding, occupation etc. which are discussed in the present chapter.

4.2 AGE

Age is the most important parameter, which plays vital role in the milk production. Hence, the groups of the milk producers are tabulated in the Table No. 4.1.

Table No. 4.1

Distribution of sample milk producers according to their age (1999-2000)

Sr. No.	Age groups (years)	No. of milk producers
1	Upto 30	29
2	31 to 45	56
3	46 and above	15
	Total	100

Source: Computed

Above table clearly indicates that upto the age group of 30 the number of milk producers are relatively low (29) as compared to age group between 31 to 45 (i.e. 56). This is because this age group

is dependent on parents and is involved in education, other employment, or business.

At present, it is well known fact that there is a population explosion in India. Hence, the number of milk producers with the age group of 31 to 45 has diverted their attention to accept dairy occupation as a secondary occupation. It is clear from the observation that more than 56 milk producers were in the age group of 31 to 45. Moreover, the number of milk producer was found to the lowest (15) for the age of 46 and above. This is due to less efficiency of the milk producers due to the higher age. Above table indicates that mature persons are involved dairy business where as the number of persons below 30 years and 46 years of age are being relatively small.

4.3 SIZE OF LAND HOLDING

The statistical analysis of the size of land holding is the most important factor in the milk production.

Table No. 4.2

Distribution of milk producers into different group according to their land holding

Sr. No.	Size of land	No. of milk producers
1	Landless	13
2	Marginal (upto 01 hector)	31
3	Small (1 to 2 hector)	21
4	Semi medium (2 to 4 hector)	17
5	Medium (4 to 10 hector)	13
6	Large (Above 10 hector)	05
	Total	100

Source: Computed

It is clear from the above table that the landless and medium landholders are 13. Due to their dependency on labour work. It has to purchase fodder for their animals, which leads to relatively less number of milk producer's (i.e.13). The number of milk producers are large (i.e.31 and 17) respectively in case of marginal and semimedium landholder. This is due to fact that the milk production is the secondary occupation and is good source of income, where as the number of milk producers were found to be (i.e. 5) in case of large size of land holding which is due to less attention on milk production as a secondary occupation.

4.4 CASTE

Caste and religion is the most important factor in the human being. All society structure is depending upon the cast and religion. Each and every occupation is related to the caste. Castewise classification in the dairy business is given in Table No. 4.3

Table No. 4.3

Castewise distribution of the milk producers

Type of caste	Landless farmers	Marginal farmers	Small farmers	Semi medium farmers	Medium farmers	Large farmers	Total
Open	06 (9.23)	17 (26.15)	18 (27.69)	11 (16.92)	9 (13.85)	4 (6.16)	65 (100.00)
SC	01 (50.00)	01 (50.00)	-	-	-	-	02 (100.00)
ST	01 (50.00)	-	01 (50.00)	-	-	-	02 (100.00)
OBC	2 (16.67)	07 (58.33)	02 (16.67)	01 (8.33)	-	-	12 (100.00)
NT	03 (15.79)	06 (31.58)	-	05 (26.31)	04 (21.05)	01 (5.27)	19 (100.00)

Source: Computed

The above Table clearly indicates that castewise classification of the dairy occupation. In case of SC category milk producers are very less among the landless and marginal farmer i.e. 50, 50 percent respectively. Only two milk producers involved in dairy farming. Similarly, the ST category milk producers. On the other hand, the Open category people are mostly involved in dairy activity, due to his own farming and sound economic condition. In case of SC and ST category milk, producers are very less compared to other category of milk producers due to the no own land. In case of OBC category people are involved in dairy activity higher than SC and ST categories milk producers due to some owned land (i.e. landless 16.67, marginal 58.33, small farmers 16.67 and semimedium 8.33 percent belong to the OBC category).

One of the most observation not a single persons are medium and large farmer belong to the SC and ST category milk producers. NT category is the second rank in the milk production compared to other caste category milk producers. In case of landless 15.79, marginal 31.58, semimedium 26.31, medium 21.05 and large farmer 5.27 percent respectively.

4.5 EDUCATION

The statistical analysis of the education status of the male and female milk producers is tabulated in Table No. 4.4. This is also one of the most important parameters which affect the yield of milk.

Table No. 4.4

Educational Status of the Male and Female Milk Producers

Type of milk producers	0 to 10th		11th to 12th		Degree		illiterate		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Landless	8 (61.54)	8 (61.54)	-	-	1 (7.70)	-	4 (30.77)	5 (38.46)	13 (100)	13 (100)
Marginal upto 1 hector	21 (67.75)	18 (58.6)	6 (19.35)	-	3 (9.68)	-	1 (3.23)	13 (41.94)	31 (100)	31 (100)
Small 1 to 2 hector	13 (61.90)	8 (38.9)	2 (9.52)	1 (4.76)	-	-	6 (28.57)	12 (57.14)	21 (100)	21 (100)
Semimedium 2 to 4 hector	13 (76.47)	8 (47.05)	4 (23.53)	-	-	-	-	9 (52.94)	17 (100)	17 (100)
Medium 4 to 10 hector	8 (61.55)	10 (76.92)	1 (7.69)	-	4 (30.71)	-	-	3 (23.08)	13 (100)	13 (100)
Large Above 10 hector	2 (40.00)	4 (80.00)	-	-	1 (20.00)	-	2 (40.00)	1 (20.00)	5 (100)	5 (100)

Source: Computed

It is clear from the above table that illiteracy is high (i.e. 40.00 percent) in the large farmers. This is due to fact that main occupation (farming) provides good money or income sources and fulfils the requirements of the day to day life of the milk producers. Hence, large farmers are diverted from education as well as their contribution to the secondary business is similar in the case of landless milk producers. The illiteracy rate among them is 30.77 percent due to orthodox and poverty. The degree holders found to be maximum 30.77 percent in the case of medium farmers. The unemployed degree holders had contributed to this field since it is important occupation.

The higher secondary educated milk producers belong to semi medium farmers are highest i.e. 23.58 percent. Moreover, secondary educated milk producers also found to be maximum i.e. 76.47 percent as per the above table. Not a single person is illiterate belonging to semi medium and medium producers.

In case of female educational status females illiteracy rate is high compared to men educational status. In case of small farmer's category the female's illiteracy rate is high (i.e. 57.14 percent) as compared to other category of female milk producers. Not a single female is high educated due to the orthodox society people and low status of the females in the society. In case of large farmer females literacy percentage upto 10 (i.e. 80) it is higher than other category females.

4.6 DISTRIBUTION OF MILK PRODUCERS AS PER IMPORTANCE OF THE DAIRY ACTIVITY

Agriculture is the most important source of the employment generation such as dairying, poultry farming, piggy, goat keeping etc. Dairying is the most important source of employment in the rural area.

Table No. 4.5

Distribution of milk production as per land holdings

Size of land holding	Farming	Dairy	Service	Labour	Total
Landless	-	4	2	7	13
Marginal	18	5	4	4	31
Small	19	01	01	00	21
Semi medium	15	00	02	00	17
Medium	13	00	00	00	13
Large	05	00	00	00	05
Total	70	10	9	11	100

Source: Computed

The above table indicates that the 13 landless people were involved in dairy, service, and agricultural labour. Among them, the main occupation of the 04 people is dairying. Among the 31 milk producers, 18 marginal have accepted farming as a main occupation and 13 people have involved in dairy, service and agricultural labour respectively 5,4,4 as their main occupation. They have a negligible or little contribution in the dairy as a main occupation. However, from the statistical analysis, it has been found that, dairy occupation is the secondary occupation of every category of landless and landholders.

4.7 INVESTMENT IN DAIRYING

Investment in dairying enterprise comprises of investment in milch animals, investment in cattle shed and diary equipments. The investment in livestock and other assets per milk producers of different categories of milk producers. Table No. 4.6 indicates the investment in the dairy industry in 1999-2000.

Table No. 4.6

Average capital investment in dairy industry (1999-2000)

Size of land holding	Investment in milch animal	Investment on cattle shed	Investment on dairy equipments	Net investment
Landless	718000 (90.00)	2200 (0.28)	77700 (9.72)	797900 (100.00)
Marginal	1364000 (67.56)	135100 (6.68)	522965 (25.87)	2022065 (100.00)
Small	1380000 (65.62)	4600 (0.22)	718396 (34.16)	2102996 (100.00)
Semi medium	1178200 (72.85)	86800 (5.37)	352400 (21.78)	1617400 (100.00)
Medium	1773000 (84.58)	152000 (7.25)	171325 (8.17)	2096325 (100.00)
Large	477000 (49.56)	21900 (2.28)	463570 (48.16)	962470 (100.00)

Source: Computed

(Figures in the brackets indicate the percentage to net investment)

Table No. 4.6 clearly indicates that landless milk producers are investing on milch animal (i.e. 90 percent) it is too much compared to other landholders. But very less amount is invested by large landholders (i.e. 49.56 percent) on milch animal, marginal, small, semi medium, medium are investing on milch animal i.e. 65.62, 72.85 and 84.58 percent respectively.

Regarding to the cattle shed very less amount is invested by the landless only 0.28 percent, due to their poverty, they cannot provide cattle shed to their milch animal. Small farmers invest in cattle shed

(0.22 percent) very less amount due to low income and large farmers invest (2.28 percent) on cattle shed, marginal, semi medium and medium are investing 6.68, 5.27 and 7.25 percent respectively.

Large farmers invest on dairy equipments 48.16 percent and there is very less investment by medium farmers 8.17 percent. The landless, marginal, small and semi medium farmer invest in dairy equipments respectively 9.74, 25.87, 34.16 and 21.78 percent.

4.8 MILK PRODUCTION AND CONSUMPTION

The dairy industry in India has gone through a sea change transforming it self from an important dependent industry to a self-reliant indigenous industry. According to FAO report, India is largest milk producing country in the world. According to 1989-99 economic survey, per capita milk availability was only 176 grams per day and milk production in 1997-98 70.5 million tonnes.

The following Table No. 4.7 indicates the different group of milk production and consumption per day in the study area.

Table No. 4.7

Per Day Milk Production and Consumption

Size of holding	Per day milk production (litres)	Per day milk consumption (litres)
Landless	14.92	1.92
Marginal	18.00	1.69
Small	23.76	2.04
Semi medium	23.94	2.58
Medium	33.69	3.23
Large	23.06	2.09

Source : Computed

Average milk production is 22.87 litres per day and average milk consumption per household 2.52 litres per day. The above data mean deviation is 4.29 litres and correlation is 2.68 litres. Table No. 4.7 clearly indicates the different group of milk production and consumption per day. According to the table the high milk production in case of medium farmer i.e. 33.69 litres and low milk production in case of landless milk producers i.e. 14.92 litres per day. The landless milk producer purchases feed and fodder totally from the market, and they brought fodder in the large farmers field. therefore, they cannot spend more money on the feed and fodder. Hence, the milk production is very low compared to other categories of milk producers. Medium farmers milk production is very high i.e. 33.69 litres, due to their own fodder and good management of dairying. In case of large farmer 23.06, marginal 18, semi medium 23.94 and small 23.76 litres milk production per day.

Regarding to milk consumption the landless milk producers milk consumption is very low i.e. 1.92 litres and marginal 1.69 litres, because they want to sell more milk and get more money from milk to meet their daily needs. In case of small, semi medium and large farmers they consume per day 2.04, 2.58, 3.23, and 2.09 litres milk respectively. Because they are economically sound therefore they consume more milk average milk consumption by the different groups of milk producers is 2.25 litres per day and milk production per day 22.89 litres.

Per day milk production correlation is 2.68 and mean deviation is 2.29 litres. Regarding to the milk consumption mean deviation is 0.43 litres per day.

4.9 PER COW PER DAY COST OF FEED, FODDER AND CONCENTRATES

Milk production is highly complex biological process influenced by the cows genetic characteristics and environmental factor. Most important of which is the nutritional input feed and fodder plays an important role in livestock production in general milk production. Chronic shortage of feed and fodder in our country. Therefore, the producing capacity and fertility of livestock is very less.

The Lucerne maize, green grass and sugarcane tops are the main type of green fodder. Jawar and Bajara kadba are main forms of dry fodder. The main commercial feed such as Shivamrut, H. P. gold, Godrej are used by milk producers.

Table No. 4.8

Per cow per day cost of feed, fodder and concentrates

Size of holding	Dry fodder (Rs.)	Green fodder (Rs.)	Concentrates (Rs.)	Total Net cost (Rs.)
Landless	5.43	11.1	10.3	26.83
	(20.24)	(41.37)	(38.39)	(100.00)
Marginal	4.33	15.45	13.83	33.61
	(12.88)	(45.97)	(41.15)	(100.00)
Small	4.17	21.9	16.69	42.74
	(9.76)	(51.24)	(39.00)	(100.00)
Semi medium	5.56	16.01	12.9	34.56
	(16.8)	(46.58)	(37.32)	(100.00)
Medium	5.3	19.56	11.7	36.57
	(14.57)	(53.48)	(31.99)	(100.00)
Large	7.17	24.5	25.93	57.6
	(12.45)	(42.54)	(45.01)	(100.00)

Source : Computed

Figures in the brackets indicate percentage of total net cost.

It was observed from Table No. 4.8 that average expenditure per cow per day on dry fodder, green fodder and concentrates etc. per cow total expenditure in case of landless milk producer is. Rs. 26.83. It is very less expenditure compared to the other category of the milk producers. In case of large farmers, the cost is very high i.e. Rs. 57.06. Marginal, small, semi medium and medium farmer's expenditure is Rs. 33.01, 42.74, 34.56 and 33.57 respectively. In case of landless milk producer per day per cow expenditure is very less because they use dry fodder, green fodder some time without any cost. The cost is less due to well management. Moreover, other hand the large farmer's

expenditure is very high due to lack of management and interest of dairying. They depends on labour.

Average green fodder expenditure is high compared to other dry fodder and concentrates. The study is semi irrigated, so green fodder is available in throughout the year.

4.10 PER COW PER DAY LABOUR CHARGES

Labour service is the most important factor in the milk production. In India, female contribution of dairying is very important. About 65 percent contribution in dairying and 31 percent contribution of male in dairying. Female's role in dairy farming is very important. The major items of work for labour feeding, cleaning of byre, milking, milk delivering of the co-operative societies and other work.

The Table No. 4.9 indicates the per cow per day labour charges in the study are.

Table No. 4.9

Per cow per day labour charges

Size of holding	Man days and cost (Rs)		Women days and Cost (Rs)		Per day Cost (Rs)		Total Cost (Rs.)
	Mandays	Cost	Women days	Cost	Man	Women	
Landless	6.77	406.20	2.19	65.7	7.12	1.15	8.27
Marginal	16.00	960.00	14.63	438.9	7.32	3.35	10.67
Small	13.00	780	5.83	174.9	6	1.34	7.34
Semi medium	3.63	217.80	9.38	281.4	1.85	2.40	4.25
Medium	8.06	483.60	3.00	90.00	4.27	0.80	5.07
Large	3.63	217.80	0.44	13.2	5.58	0.33	5.92

Source : Computed

Table No. 4.9 clearly indicates that the average male and female working in man-days and per cow total labour charges. In case of marginal farmer, the labour charges are very high i.e. Rs. 10.67 compared to other milk producers. In case of landless the labour charges is low compared to the marginal farmer's i.e. Rs. 10.67. Very less labour charges are in case of semi medium i.e. Rs. 4.25. In case of medium and large farmers per day labour charges is very less as compared to marginal and landless farmers.

In case of semi medium, medium and large farmer the per day labour cost is less due to cattle shed and well management of dairy industry. However, landless and marginal, small farmer's labour cost is high due to lack of management of dairying.

In study, area women's role is negligible. In case of large farmers the women's contribution is very less in dairying because they spent more time in the house work and their family is rich therefore, women cannot take interest in dairying. But in case of marginal farmers women (man-days 14.63) work in dairying as a subsidiary occupation with farming and house work. In case of landless women (mandays 2.19), they are rearing cows for milking side by side other labour work they do. In case of semi medium milk producers women play major role in dairying they work (9.38 mandays). In case of small and medium, they work (5.83 and 3.00 mandays) in dairy activity.

In this study area, the women's role in dairying is very less as compared to men.

4.11 AVERAGE EXPENDITURE ON MEDICINE

Clean milk and healthy animal is the main objective of the dairying. The Government supported the health care of the milch animal. The project started under Operation Flood III on March 1988 cover some important basic animal diseases like foot and mouth disease. Generally milk producers expenditure on medicine and A. I., oral vaccine, foot disease and mouth disease. These diseases spread due to the dirty cattle shed and wrong milking, method, lack of management of dairying.

Table No. 4.10

Average expenditure on medicine per day per cow/animal

Size of holding	Cross breeded cow per day (Rs.)	Cow per day (Rs.)	Buffaloes per day (Rs.)	Total expenditure on medicine (Rs.)
Landless	0.95	1.11	0.06	2.12
Marginal	2.46	0.83	0.31	3.6
Small	1.62	0.16	0.30	2.08
Semi medium	1.54	0.08	0.30	1.92
Medium	1.43	-	0.37	1.8
Large	1.09	-	0.69	1.78

Source : Computed

Table No. 4.10 clearly indicates the per animal per day expenditure on the medicines included veterinary doctor fee, medicinal charges. In case of marginal farmer, the expenditure is very high i.e. Rs. 3.6, due to the lack of management and dirty cattle shed. In case

of medium milk producer the expenditure is very less i.e. Rs. 1.8, due to utilization of modern dairying system like time to time vaccination to the cows. In case of landless, small, semi medium and large milk producers, the expenditure on medicines is Rs. 2.12, 2.08, 1.92 and 1.8 respectively.

Nowdays clean milk and healthy animal is the motto of dairying. According to above Table cow medicine expenses is very low as compared to the crossbreed cow and buffaloes.

4.12 INTEREST COST

It is very important to have fixed capital before going to start any business. The role of fix capital is very important at the beginning once the business is started according to their need of changing capital. The following Table No. 4.11 shows per day interest on changing capital including fodder, feed, medicine, labour charges, and other.

Table No. 4.11

Per cow per day interest on changing capital

Size of land holding	Investment on changing capital (Rs)	Per day interest on changing capital (Rs.)
Landless	805	0.29
Marginal	1009	0.36
Small	1222	0.44
Semi medium	1037	0.37
Medium	1097	0.39
Large	1728	0.62

Source : Computed

Above table, clearly indicate that the large portion per day changing investment interest goes to the large farmer milk producers group i.e. 0.62. The small portion goes to the landless farmer's milk producer i.e. Rs.0.29. This happens because the large farmers invest more money in dairying. On the other hand the landless milk producer invest very less money therefore they spent interest on changing capital is very less. In case of marginal, small, semi medium milk producers spent on interest on the changing capital i.e. Rs. 0.36, 0.44, 0.37, 0.39 respectively.

4.13 EXPENDITURE ON INSURANCE

Insurance is the most important factor affecting on the dairying. In case milch animal is dead, whole economics of milk producers is failed. He cannot bear the loss of animal; therefore, the insurance is the most important factor in the dairying. The investment in the insurance is very small such as 3 to 5 percent of total investment amount.

Table No. 4.12

Account of insurance expenditure on dairy per animal (1999-2000)

(amount in Rs.)

Type	Landless	Marginal	Small	Semi medium	Medium	Large	Total
Insured cows No.	2 (3.23)	9 (14.52)	4 (6.45)	12 (19.35)	30 (48.39)	5 (8.06)	62 (100.00)
Amount of insurance	450 (0.99)	16155 (35.67)	1350 (2.98)	7050 (15.56)	16300 (35.98)	4000 (8.83)	45305 (100.00)
Per day per cow expenses	0.04	0.67	0.05	0.36	0.87	0.61	2.6

Source : Computed

In above Table No. 4.12 it is observed that the per day insurance cost is very less in case of landless milk producers. They spent Rs. 0.4. They are unaware of the insurance scheme and government policy. The medium farmers spent Rs. 0.87 on the insurance. Small, semi medium, large farmers spent Rs. 0.67, 0.05, 0.36, and 0.61 respectively. Awareness of the insurance scheme is very less among the all types of milk producers.

Above table clearly indicates that the number of insured milch animal is very less. In case of landless out of 57 milch animals only 2 animals insured. Due to the poverty and unawareness of insurance scheme. In case of medium farmers out of 131 animals, only 30 animals are insured. The insured animals are very less in all type of milk producers.

4.14 TOTAL COST OF MILK PRODUCTION

Itemwise breakup for each cow and total cost of milk production is tabulated in Table No. 4.13 for intercalating period of crossbreed cow. The average total cost included cost of feeding, labour charges, veterinary charges, interest on fix capita, utensils and dairy assist etc.

Table No. 4.13

Breakup of total cost of milk production intercalving period for crossbreed cow

Size of holding	Feed and fodder concentrates (Rs.)	Labour charges (Rs.)	Insurance charges (Rs.)	Medicine cost (Rs.)	Interest on fix capital (Rs.)	Interest on variable capital (Rs)	Net cost (Rs.)
Landless	26.83	8.27	0.04	2.12	9.23	0.29	46.78
Marginal	33.61	10.67	0.67	3.06	10.40	0.36	58.77
Small	42.74	7.34	0.05	2.08	11.02	0.44	63.67
Semi medium	34.56	4.25	0.36	1.92	10.96	0.37	52.42
Medium	36.57	5.07	0.87	1.08	12.38	0.39	57.71
Large	57.06	5.92	0.61	1.78	16.70	0.62	83.23

Source : Computed

It is observed from the Table No. 4.13 that the average total cost of milk production of crossbreeded cow is Rs. 46.78 per day per cow in case of landless milk producers. Out of this net cost the analysis for the same is feed and fodder Rs. 26.83, labour charges 8.27, insurance cost 0.04, medicine cost 2.12, interest on fix capital 9.23 and interest on changing capital o.29 respectively. On which more expenses on the feed, fodder and concentrates and interest on fix capital. Insurance cost is very less i.e. Rs. 0.04, due to the poverty and unawareness of insurance policy.

In case of large farmer, the average total cost of milk production of crossbreed cow is very high i.e. Rs. 83.23 among the other milk producers. Out of this expenditure i.e. Rs. 83.23 the major amount is spent on the feed, fodder and concentrates i.e. Rs. 57.06 and interest

on fix capital i.e. Rs. 16.70 highly expenditure these items due to the high investment on the dairying. Medicine cost is less than landless milk producer i.e. Rs 1.78 due to the cattle shed and good management of cattle rearing.

In case of small farmers, the average total cost of milk production of crossbreed cow the total net cost is Rs. 63.67. The small land holders expenditure on milk producer rank is second among the other milk producer. Out of which Rs. 63.67 amount major portion is spent on feed, fodder and concentrates, interest on fix capital Rs. 11.02, labour charges Rs. 7.34, insurance cost Rs. 0.05, medicine cost Rs. 2.08 and interest on changing capital Rs. 0.44. The insurance cost is very less due to the unawareness of insurance scheme.

In case of semi medium farmer total net cost of milk production Rs. 52.42 which is major portion spent on the feed, fodder and concentrate and interest on fix capital Rs. 34.56 and 10.96 respectively. Medicine cost is less Rs. 1.92 as compared to the landless, marginal and small farmers due to the well management and cattle shed.

In case of marginal and medium farmers, the net cost of milk production is Rs. 58.77 and 57.71 respectively. Out of which amount the both milk producers spent major portion on the feed, fodder and concentrate, Rs. 33.61 and 36.57 respectively.

In case of marginal farmer medicine cost is high i.e. Rs. 3.06 as compared to medium farmer i.e. Rs. 1.08. In case of labour cost the

marginal farmers, labour cost is high i.e. Rs. 10.67 as compared to medium farmer i.e. Rs. 5.07. The interest on fix capital is less in case of marginal farmer i.e. Rs. 10.40 and medium farmer is very high i.e. Rs. 13.40.

It has been observed that on average feeding cost of milk production in case of size of holding category of milk producer as compared to landless the cost of feeding, fodder, concentrates is very less. This is due to fact that the capital investment of landless milk producers is low as compared to other category of milk producer. The landless and marginal size of landholding are succeeded in the dairying due to their personal attention on every parameter affecting the losses in the dairying similarly in the case of semi medium land holder.

It was also observed that the interest on fixed capital in case of farmers category milk producers is more as compared to landless milk producers. In case of investment in other category milk producer's economic condition is good as compared to the landless category milk producers.

Regarding insurance above data indicates that there is no awareness in case of landless and small farmers as compared to the medium and marginal land holders. This is due to fact that in case of landless and small holding milk producers there is a illiteracy and poverty. While medium land holding farmers aware about the insurance.

Regarding the medicine, cost semi medium, medium, and large farmers spent very less amount as compared to landless and marginal and small land holder milk producers, due to cattle shed and well management of dairy animals.

4.15 MILK PRODUCTION AND INCOME

At present, our country is flooded with crossbreeded cow milk. This crossbreed cow milk production is higher than the native cows. Due to crossbreed cow, milk production increasing day by day. Average crossbreed cow milk productivity in one lactation period i.e. 3500 kg. Government of Maharashtra fixed the rate of cow milk in summer and rainy season Rs. 10.00 and 7.70 per litre.

Table No. 4.14

Milk production and income from milk per cow per day

Size of land holding	Milk production per day per cow (litre)	Value of milk (Rs.)
Landless	8.08	58.66
Marginal	10.33	75.00
Small	9.42	68.39
Semi medium	9.93	72.09
Medium	9.32	67.66
Large	7.37	53.51

Source : Computed

Table No. 4.14 clearly indicates that the average milk production per cow per day of the various milk producers category. In case of large farmers the average milk production is very less i.e. 7.37 litre, due to the

lack of management of dairying, more dependency of labour etc. In case of landless milk producers the milk production is higher than large farmers i.e. 8.08 litre) due to the well management of feed and fodder. In case of marginal, small, semi medium and medium farmers the milk production is high as compared to the landless and large farmers i.e. 10.33, 9.42, 9.93 and 9.32 litre respectively, due to the well management and personal attention on the dairy business. In this study area it is observed that per litre milk rate is very less i.e. Rs. 7.26 per litre. Due to the less rate of milk, the dairy business is becoming uneconomic or not profitable.

4.16 REVENUE FROM COW DUNG

Cow dung is one of the most important factor of dairying. Rural people as a fuel for cooking purpose use cow dung as a fuel. This saves a degradation of the forest and which ultimately leads to environmental balance. This cow dung can also be used as source of fuel for biogas. Cow dung is the most useful natural fertilizer for land, which ultimately increases the fertility of the soil, and it leads to high yield of crops.

Table No. 4.15

Average revenue from dung per cow per day

Size of land holding	Income from cow dung (Rs.)		
	Year	Month	Per day
Landless	949	79.08	2.63
Marginal	906	75.05	2.52
Small	1334	111.16	3.70
Semi medium	1173	97.75	3.26
Medium	1674	139.50	4.65
Large	3435	286.00	9.35

Source : Computed

The above table clearly indicates that in case of large farmers the cows dung income from one cow in one day i.e. Rs. 9.53. The income from dung is high compared to the other category milk producers, due to the more fodder and feeding. In case of landless milk producer income from dung is very less i.e. Rs. 2.63, due to less availability of fodder. In case of marginal farmer the cow dung income i.e. Rs. 2.52 is very less as compared to the landless farmers.

In case of small, semi medium and medium farmers the income from cow dung is lower than large farmer i.e. Rs. 3.70, 3.26, and 4.65 respectively. This income is higher than the landless and marginal farmers due to high feeding and availability of cattle shed.

4.17 PRODUCTION, PROFIT OR LOSS

Per cow total cost of milk production work out. The cost of feed, fodder, concentrates, medicines, labour charges, interest on fixed capital, interest on changing capital included in the total cost of milk

production and profit included cow dung value, per cow per day milk value etc.

Table No. 4.16

Per cow per day cost of milk production and per cow profit or loss

Land holding	Net cost of milk production (Rs.)	Income from per cow (Rs.)	Profit or loss per day
Landless	46.5	61.29	14.79
Marginal	59.08	77.52	17.72
Small	64.09	72.09	08.00
Semi medium	53.09	75.35	21.45
Medium	57.71	72.31	14.6
Large	83.23	62.86	-20.37

Source : Computed

Table No. 4.16 indicates that in case of small farmer the profit is very less i.e. Rs. 8.00 per cow per day. This is due to more expenditure i.e. Rs. 64.09 per day per cow on fodder, feed, concentrates, labour charges, insurance charges, interest on fixed and changing capita etc.

Almost equal profit has been observed in case of landless and marginal farmers i.e. Rs. 14.79 and 17.72 respectively. In case of semi medium and medium milk producer there is profit i.e. Rs. 21.45 and 14.6 respectively. This may be due to considering dairying as a main subsidiary occupation. On the other hand, it has been observed that in case of large farmer milk producers has a dairying occupation of least importance and most of work like feeding, milking, transporting of milk etc. they are totally depending on labour. Hence, it results in high

expenditure i.e. Rs. 83.23 per cow per day. Naturally the cost of milk production increases and profit goes is less negative i. e. Rs. –20.37 per day per cow.

Though the rich farmers are continuing, this secondary occupation because cow dung and periodic money cycle of milk payment is the source to invest in agriculture indirectly this business helps the large farmers to increase the fertility of their land.

4.18 OUTPUT – INPUT RATIO

Output input ratio is the heart of dairy business because it indicates the efficiency of dairy business. Output input ratio at different cost levels for crossbreed cow is presented in the table given below:

Table No. 4.17

Average Output Input ratio for crossbreed cow

Size of holding	Gross income	Total cost	Output-Input ratio
Landless	112.44	46.78	2.40
Marginal	135	58.77	2.30
Small	178.75	63.67	2.81
Semi medium	179.46	52.42	3.42
Medium	252.61	57.71	4.37
Large	147.22	82.61	1.78

Source : Computed

It has been observed that the efficiency (Output-Input ratio) is similar order of 2.40, 2.30 and 2.81 in case of landless, marginal and small farmers respectively, those who are working a diary business while

in case of semi medium and medium farmers dairying efficiency is 3.42 and 4.37 respectively and which is high as compared to landless and marginal, small farmers. On the other hand, efficiency of dairying business is found lowest i.e. 1.76 in case of large farmers. The interpretation of the results is same as mentioned in Table No. 4.17.

Though the net returns are not attractive, it should be born in mind that the cow maintained by the milk producers to provide employment and supply cow dung to his field. Hence, the economic profit or loss from the dairy business is not important through this angle.