

RESEARCH PAPER

Management practices and financial feasibility of milk production in dairy farming unit

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ABSTRACT

The present study was conducted in Belagavi district of Karnataka. The multistage sampling technique was followed for the selection of the farmers. In Belagavi district, Gokak and Athani taluks were selected purposively on the basis of highest dairy animal population. From each taluks top 6 milk producing villages were selected purposively, where the dairy farming was widely practiced in year 2014-15. The data were collected from 10 dairy farmers from each village, 5 dairy co-operative societies and 5 milkmen's were selected from each talukas. Thus, the total sample size is 140. The data was summarized and analyzed with the help of statistical tools like tabular analysis and financial feasibility analysis. The study reveals that, net present value of buffalo, cross breed cow and indigenous cow was Rs. 76755.80, Rs. 102647.00 and Rs. -508.95, respectively. Benefit cost ratio was found to be highest in cross breed cow farm (1.45), followed by buffalo farm (1.42) and indigenous cow farm (0.99). The internal rate of return is found to be highest in cross breed cow farming unit (36.31 %), followed by buffalo farming unit (32.65%) and indigenous cow farming unit (11.7%). It shows that the indigenous cow farms are financially not feasible in study area.

KEY WORDS : Management practices, Financial feasibility, Milk production, Dairy farming unit

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Dairy farming is one of the important activities of the rural population of our country. The importance of the dairy, as a subsidiary industry to agriculture, has stressed by the national commission on agriculture. Dairy enterprise, next to agriculture,

not only provides continuous income and reduces unemployment to a large number of the rural poor. Dairy can be used as a tool for poverty alleviation in the country. India, the largest producer of milk in the world, is set to produce over 139 million tonne milk during 2013-14, with 16.00 per cent of global production, followed by the United States of America, China, and Brazil. Several measures have been initiated by the Government to increase the productivity of milk animals, which has resulted in increasing the milk production significantly. India contains largest livestock population in the world and accounts about 57.80 per cent of the world's buffalo population and 14.70 per cent of the cattle population. The contribution of buffalo milk towards the total milk

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production is nearly 51.00 per cent, even though the buffalo population is 1/3rd the cattle population. According to 18th livestock census (2012) there are 275.80 million of indigenous cattle's, 39.90 million of exotic and crossbreed cattle's, 124.90 million of buffaloes are present in India. Out of that population Karnataka having 14.20 million indigenous cattle's, 22.50 million exotic and crossbreed cattle's and 45.80 million buffaloes. In the case of Belagavi district the population of buffalo is highest as compare to cross breed cow and indigenous cow, which is 0.81 million, 0.17 million and 0.40 million, respectively. Fortunately, animal husbandry sector provides a unique opportunity for small farmers, particularly in the arid regions and non-irrigated areas for earning sustainable livelihood because of following reasons. Most of the small holders already own livestock to generate supplementary income, in split of frequent crop failures; fodder supply for livestock is well assured. Dairy farming which ensures steady supply of organic nutrients can boost agricultural production, particularly of rained crops, where higher doses of chemical fertilizers are not used. With year round gainful self-employment, livestock husbandry reduces seasonal migration of small holders.

METHODOLOGY

The multistage sampling technique was followed for the selection of the farmers. According to animal census-2012, Belagavi district ranks first in dairy animal population over the state. In Belagavi district two talukas namely Gokak and Athani talukas were selected purposively on the basis of highest dairy animal population. From each talukas top 6 milk producing villages were selected purposively, where the dairy farming was widely practiced in year 2014-15. The data were collected from 10 dairy farmers from each village, 5 dairy co-operative societies and 5 milkmen's were selected from each talukas. Thus, the total sample size is 140. All dairy farmers are equally classified into three categories viz., buffalo farmers, cross breed cow farmers and indigenous cow farmers.

For evaluating the objective of study necessary data collected from sample respondents including data on general information about individual farmer, input particular, financial and infrastructural arrangements, various costs and returns in dairy farming and also about particular of marketing in year 2014-15. The primary

data was obtained from selected dairy farmers with the help of well structured and pre-tested questionnaire. Farmers, milkmen's and dairy co-operative societies were personally interviewed. Secondary data was collected from last four animal population census *i.e.* National Animal Census from 1997 to 2012, National Dairy Development Board (NDDDB) Official website, Karnataka Milk Federation (KMF), Department of AHVS Karnataka. These data were used to analyse growth of dairy animal population in Belagavi district.

The data was summarized and analyzed with the help of statistical tools like tabular analysis and financial feasibility analysis. The tabular presentation was used to know the different management practices followed by the dairy farmers and the main purpose of adopting financial feasibility analysis was to know the most feasible milk animal for dairy farming.

ANALYSIS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under the following heads :

Operational management practices followed by different dairy animal farmers :

In study area the dairy farmers were following different types of management practices. As per Table 1, most of cross bred cow and buffalo rearing farmers were found to be following modern and scientific management practices as compare to indigenous cow rearing farmers. About 52.50 per cent buffalo rearing farmers were having pucca house and 47.50 per cent were having kaccha house. In case of cross bred cow 57.50 per cent were having pucca houses and 42.50 per cent were having kaccha houses and in case of indigenous cow farmers 60.00 per cent were having kaccha houses and 40.00 per cent were having pucca houses. In case of buffalo farmers 67.50 per cent were following line tying pattern, 20.00 per cent were following head to head, 10 per cent were following tail to tail and 2.50 per cent were following loose housing. Among cross bred cow rearing farmers 52.50 per cent were following line tying pattern, 27.50 per cent were following head to head, 12.50 per cent were following tail to tail and 7.50 per cent were following loose housing. In case of indigenous cow farmers 52.50 per cent were following line tying pattern, 30.00 per cent were following head to

Table 1 : Operational management practices followed by the different dairy animals				
Sr. No.	Particular	Buffalo (n=40)	Cross-breed cow (n=40)	Indigenous cow (n=40)
1.	Housing management			
	House type			
	Kaccha house	19 (47.50)	17 (42.50)	24 (60.00)
	Pakka house	21 (52.50)	23 (57.50)	16 (40.00)
	Tying pattern			
	Head to Head	8.0 (20.00)	11 (27.50)	12 (30.00)
	Tail to Tail	4.0 (10.00)	5.0 (12.50)	3.0 (7.50)
	Line	27 (67.30)	21 (52.50)	21 (52.50)
	Open	1.0 (2.50)	3.0 (10.00)	4.0 (10.00)
2.	Separate compartment for non-milch animals	12 (30.00)	7.0 (17.50)	5.0 (12.50)
3.	Feeding management			
	Feeding schedule			
	Three times / day	16 (40.00)	15 (37.50)	15 (37.50)
	Four times / day	24 (60.00)	25 (62.50)	25 (62.50)
	Feeding material			
	Green fodder			
	Non-legume	31 (77.50)	35 (87.50)	35 (87.50)
	Mix	9.0 (22.50)	5.0 (12.50)	5.0 (12.50)
	Dry fodder			
	Non-legume	32 (80.00)	34 (85.00)	32 (80.00)
	Mix	8.0 (20.00)	6.0 (15.00)	8.0 (20.00)
	Concentrates			
	G'nut cake	0.0	2.0 (5.00)	0.0
	Cotton seed cake + bran mixture	16 (40.00)	13 (2.50)	23 (57.50)
	Cereal- pulses concentration	4.0 (10.00)	1.0 (32.50)	1.0 (2.50)
	Other supplements	20 (50.00)	24 (60.00)	16 (40.00)
4.	Drinking water management			
	Two times / day	22 (55.00)	16 (40.00)	19 (47.50)
	Three times / day	18 (45.00)	24 (60.00)	21 (52.50)
5.	Breeding management			
	Traditional breeding	16 (40.00)	11 (28.50)	35 (87.50)
	Artificial insemination	24 (60.00)	29 (72.50)	5.0 (12.50)
6.	Milking management			
	Milking by manual			
	Full hand	23 (57.50)	26 (65.00)	29 (72.50)
	Stripping	3.0 (7.50)	3.0 (7.50)	3.0 (7.50)
	Knuckling	7.0 (17.50)	8.0 (20.00)	8.0 (20.00)
	Milking by machine	9.0 (22.50)	3.0 (7.50)	0.0
7.	Labour management			
	Family labour	30 (75.00)	33 (82.50)	38 (95.00)
	Hired labour	8.0 (20.00)	2.0 (5.00)	0.0
	Both	2.0 (5.00)	5.0 (12.50)	2.0 (5.00)

Note: Figures in parentheses are percentage to respective total.

head, 12.50 per cent were following tail to tail and 7.50 per cent were following loose housing.

The non-leguminous green fodder was mainly used by the farmers, which contributed 77.50 per cent in buffalo, 87.57 per cent in cross breed and 87.57 per cent indigenous cow rearing farmers. The non-leguminous type of dry fodder is mostly used by the farmers, which contribute 80.00 per cent for buffalo, 85.00 per cent for cross breed cow and 80.00 per cent for indigenous cow. The concentrates mostly used for buffalo and cross bred cow feeding was readymade supplements, but in case of indigenous cow farmers 57.50 per cent were using cotton seed cake + bran mixture, 40.00 per cent were using readymade supplements and only 2.80 per cent were using cereal- pulse concentrate. The breeding management practices followed by the buffalo and cross bred cow farmers was found to be scientific; in case of indigenous cow it was traditional method because of lack of willingness of farmers for adoption of scientific technology. Some of the buffaloes and cross bred cow

farmers are using milking machines, but indigenous cow owners they do not use milking machine, because of low milk production. These findings were in conformity with those of Giovannini (2000); Losing (2003) and Kristensen (2005).

Health management practices followed by different dairy animal farmers :

The health management practices followed by the buffalo and cross bred cow owning farmers were scientific which includes regular vaccination, deworming, control of ectoparasite and animal cleaning. Indigenous cow farmers are found to be using traditional methods because of their unwillingness due to lack of financial support. As per the vaccination of animals is concerned, in case of buffalo farmers 62.50 per cent were doing once in year, 27.50 per cent were doing twice in the year and 10.00 per cent were irregular. For cross bred cow 52.50 per cent farmers were doing vaccination once in year and 40.00 per cent were doing twice in year and

Table 2 : Health management practices followed by the different dairy animal farmers

Sr. No.	Particulars	Buffalo (n=40)	Cross-breed cow (n=40)	Indigenous cow (n=40)
1.	Vaccination			
	Once in year	25 (62.50)	21 (52.50)	26 (65.00)
	Twice in year	11 (27.50)	16 (40.00)	3.0 (7.50)
	Irregular	4.0 (10.00)	3.0 (7.50)	11 (27.50)
2.	Deworming			
	Regular	7.0 (17.50)	11 (27.50)	8.0 (20.00)
	Irregular	33 (82.50)	29 (72.50)	32 (80.00)
3.	Control of ectoparasites			
	Regular	12 (30.00)	10 (25.00)	17 (42.50)
	Irregular	28 (70.00)	30 (75.00)	23 (57.50)
4.	Cleaning of animal			
	Daily	4.0 (10.00)	5.0 (12.50)	3.0 (7.50)
	Twice in week	15 (37.50)	21 (52.50)	16 (40.00)
	Once in week	15 (37.50)	12 (30.00)	15 (37.50)
	Irregular	6.0 (15.00)	2.0 (5.00)	6.0 (6.50)
5.	Udder cleaning by using			
	Hot water	27 (67.50)	28 (70.00)	24 (60.00)
	Cold water	10 (25.00)	8.0 (20.00)	13 (32.50)
	With Iodine solution	3.0 (7.50)	4.0 (10.00)	3.0 (7.50)
6.	Udder washing time			
	Before milking	22 (55.00)	22 (55.00)	22 (55.00)
	After milking	5.0 (12.50)	5.0 (12.50)	2.0 (5.00)
	Both time	13 (32.50)	13 (32.50)	16 (40.00)

Note: Figures in parentheses are percentage to respective total

7.50 per cent were following irregular vaccination practice but in case of indigenous cow 65.00 per cent farmers were doing once in year, 7.50 per cent were doing twice in year and 27.50 per cent were doing irregular vaccination.

As per Table 2, the farmers were used to clean animals either daily, once in week, twice in week or irregular. In case of buffalo farmers 37.50 per cent were used to do cleaning once in the week, 37.50 per cent do twice in a week, 10 per cent clean their buffalo daily and 15.00 per cent follow irregular cleaning. In case of cross breed cow 52.50 per cent farmers were cleaning their cows twice in week, 30 per cent were cleaning once in week, 12.50 per cent were cleaning daily and 5.00 per cent were following irregular cleaning practice. For indigenous cow 40.00 per cent of farmers were cleaning their cows twice in week, 37.50 per cent were cleaning once in week, 7.50 per cent were cleaning daily and 15.50 per cent follow irregular cleaning practice. The farmers used to clean udders by hot water, cold water or by iodine solution, in case of buffalo 67.50 per cent of farmers used hot water for cleaning the udders, 25.00 per cent used cold water and 7.5 per cent used to clean with iodine solution. Similarly for cross breed cow 70.00 per cent of farmers were using hot water for

cleaning udders, 20.00 per cent were using cold water and 10.00 per cent were using iodine solution. For udder cleaning, farmers were mostly using hot water because it makes udder hygiene and smooth for milking practice. These findings were in conformity with the Aarts *et al.* (1999) and Singh *et al.* (2013).

Milk production cost of different dairy animals :

The milk production cost of buffalo dairy farm, cross bred cow dairy farm and indigenous cow dairy farm are presented in Table 3. The total variable cost incurred on buffalo dairy farmers per animal was Rs. 22397.00, for cross bred cow it was Rs. 27623.00 and in case of indigenous cows it was Rs. 19031.00. The major items of variable costs incurred per animal was feed, which includes green fodder, dry fodder and concentrate. The cost incurred on concentrate contributed maximum share which was 14.12 per cent (Rs. 5197.00) in case of buffalo, while it was 19.78 per cent (Rs. 9240.00) in case of cross bred cow and 17.35 per cent (Rs. 4620.00) in case of indigenous cow. The fodder cost for cross bred cow is more because high milk productivity, the cross bred cow requires more concentrates as compare to other breeds. The cost incurred on dry fodder was Rs. 3194.00 for buffalo, Rs. 3832.00 for cross bred cow

Table 3 : Milk production cost of different dairy animals		(Rs. /animal / year)		
Sr. No	Particular	Buffalo	Cross-breed cow	Indigenous cow
Variable cost				
1.	Green fodder	4106 (11.15)	4563 (9.77)	3103 (11.65)
2.	Dry fodder	3194 (8.68)	3832 (8.20)	2236 (8.39)
3.	Concentrates	5197 (14.12)	9240 (19.78)	4620 (17.35)
4.	Veterinary expanses	615 (1.67)	690 (1.47)	302 (1.13)
5.	Breeding expenses	335 (1.05)	265 (0.58)	120 (0.45)
6.	Labour	8000 (21.73)	8000 (17.13)	8000 (30.05)
7.	Electricity	700 (1.90)	783 (1.72)	450 (1.64)
8.	Transportation	250 (0.71)	250 (0.54)	200 (0.75)
	Total variable cost	22397.00	27623.00	19031.00
Fixed cost				
Depreciation on				
1.	Building	1381 (3.75)	1020 (2.18)	750 (2.81)
2.	Machinery	231 (0.64)	231 (0.49)	231 (0.86)
3.	Animal	3800 (10.32)	5600 (11.99)	2000 (7.51)
	Interest on fixed capital @ 12 % p.a.	7574.40 (20.58)	9384 (20.09)	3517.20 (13.22)
	Total fixed cost	12986.40	16235	6498.20
Marketing cost				
	Total cost (A+B+C)	1417.50 (3.85)	2835 (6.07)	1093.50 (4.10)
	Total cost (A+B+C)	36800.90	46693.00	26622.70

Note: Figures in parentheses are percentage to respectively

and Rs. 2236.00 for indigenous cow. The green fodder cost was Rs. 4106 in case of buffalo, in case of cross bred cow it was Rs. 4563.00 and in case of indigenous cow it was Rs. 3103.00. The main objective of dairy farming is to maximize the milk production; this was fulfilled by feeding the green and dry fodder as well as concentrates. Thus, the feed cost was more than half of the costs incurred in animal rearing. Generally in case of buffalo and cross bred cow artificial insemination is used for breeding purpose and that's why their breeding expenses per animal is more (Rs. 335.00 for buffalo, Rs. 265.00 for cross bred cow) as compare to indigenous cow (Rs. 120.00).

The major fixed cost of dairy farm was interest on fixed capital, followed by depreciation on animal, building and machinery. In case of buffalo dairy farm the cost incurred on interest on fixed capital was 20.58 per cent (Rs. 7574.40), followed by depreciation of animals 10.32 per cent (Rs. 3800.00), building 3.75 per cent (Rs. 1381.00) and machinery 0.64 per cent (Rs. 231.00). In case of cross breed cow interest on fixed capital was 20.09 per cent (Rs. 9384.00) of the total cost, followed by cost on depreciation of animals was 11.99 per cent (Rs. 5600.00), building 2.18 per cent (Rs. 1020.00) and machinery 0.49 per cent (Rs. 250.00). In case of indigenous cow interest on fixed capital was 13.22 per cent (Rs. 3517.20) of the total cost, followed by cost on depreciation of animals was 7.51 per cent (Rs. 2000.00) building 2.81 per cent (Rs. 720.00) and machinery 0.86 per cent (Rs. 235.00). The cross bred cow having highest animal cost as well as compare to buffalo and indigenous cow it is very expensive to manage, hence the fixed costs in cross breed cow rearing is also higher. The total cost was highest *i.e.* Rs. 46693.00 in case of cross breed cow, followed by buffalo rearing farm Rs. 36800.90 and Rs. 26622.70 for indigenous cow. The farmers have scope to reduce the variable costs by altering the breed of animal. Thus, it could be concluded that variable costs,

total fixed costs and total cost of milk production on per animal were highest on cross bred cow farm, followed by buffalo farm and indigenous cow farm. These findings were in conformity with those of Kabir and Talukder (1999); Gnanakumar (2007) and Jadhav (2011).

Returns from different dairy animal breeds :

As could be expected, the gross returns per animal showed a different trend with the different dairy animals. The gross returns per animal were higher for cross bred cow farms than the buffalo and indigenous cow farms. The details of the returns from the dairy farming are presented in Table 4. It can be seen from the table that the main share of returns is contributed by sale of milk.

The gross return obtained from buffalo was Rs. 47325.00 per animal per year. The sale of milk contributed the highest share; return from sale of milk was 77.65 per cent (Rs. 36750.00) of the total return, followed by sale of animal 10.24 per cent (Rs. 4850.00), 8.49 per cent (Rs. 4375.00) from sale of manure and 2.85 per cent (Rs. 1350.00) obtained from sale of milk by-products. It is because the buffalo milk having highest fat content and it getting more price as compare to cross breed and indigenous cow breed. Hence, the return from selling of milk was more in case of buffalo. In case of cross breed cow the milk production is high as compare to other breeds but as compare buffalo per lit. milk price is less. The gross returns obtained from cross breed cow were Rs. 60475.00 per animal per year. Out of sale of milk contributed 79.86 per cent (Rs. 48300.00), followed by sale of animals which contributed 10.58 per cent (Rs. 6400.00), sale of manure contributed about 6.65 per cent (Rs. 4375.00) and sale of milk by product contributed 2.63 per cent (Rs. 1400.00). In case of indigenous cow gross returns were Rs. 28505.00 per animal. These findings were in conformity with the Dixit and Sinha (1993) and Kumar and Prabakaran (2000).

Table 4 : Returns from different dairy animals			(Rs./ animal / year)	
Sr. No.	Particular	Buffalo	Cross-breed cow	Indigenous cow
1.	Sale of milk	36750.00 (77.65)	48300.00 (79.86)	18630.00 (65.35)
2.	Sale of milk by-products	1350.00 (2.85)	1400.00 (2.31)	750.00 (2.63)
3.	Sale of manure	4375.00 (9.24)	4375.00 (7.23)	3125.00 (10.96)
4.	Sale of animals	4850.00 (10.24)	6400.00 (10.58)	6000.00 (21.04)
	Total / gross return	47325.00	60475.00	28505.00
	Net return	10525.00	13782.00	1883.00

Note: Figures in parentheses are percentage to respective total

Table 5 : Cash flows in different dairy farming unit							
Year	Buffalo dairy farm (Rs.)						
	Outflow	Inflow	Net flow	DF	DC	DR	DNCF @ 12 %
0	54120	0	-54120	1	54120	0	-54120
1	22397	42475	20078	0.8929	19998.28	37925.93	17927.65
2	22397	42475	20078	0.7972	17854.89	33861.07	16006.18
3	22397	42475	20078	0.7118	15942.18	30233.71	14291.52
4	22397	42475	20078	0.6355	14233.29	26992.86	12759.57
5	22397	45975	23578	0.5674	12708.06	26086.22	13378.16
6	22397	42475	20078	0.5066	11346.32	21517.84	10171.51
7	22397	42475	20078	0.4523	10130.16	19211.44	9081.27
8	22397	42475	20078	0.4038	9043.90	17151.41	8107.49
9	22397	42475	20078	0.3605	8074.11	15312.24	7238.11
10	22397	90475	68078	0.3219	7209.59	29123.9	21914.31
Total	278090	476250	198160	-	180660.80	257416.6	76755.79
Cross breed cow dairy farm (Rs.)							
0	68510	0	-68510	1	68510	0	-68510
1	27623	53775	26152	0.8929	24664.58	48015.70	23351.12
2	27623	53775	26152	0.7972	22021.06	42869.43	20848.37
3	27623	53775	26152	0.7118	19662.05	38277.05	18614.99
4	27623	53775	26152	0.6355	17554.42	34174.01	16619.60
5	27623	59275	31652	0.5674	15673.29	33632.64	17959.34
6	27623	53775	26152	0.5066	13993.81	27242.42	13248.60
7	27623	53775	26152	0.4523	12493.88	24322.43	11828.55
8	27623	53775	26152	0.4038	11154.17	21714.35	10560.18
9	27623	53775	26152	0.3605	9958.09	19385.89	9427.796
10	27623	116775	89152	0.3219	8891.84	37589.87	28698.03
Total	344740	606250	261510	-	224577.20	327223.80	102646.60
Indigenous cow dairy farm (Rs.)							
0	29810	0	-29810	1	29810	0	-29810
1	19031	22505	3474	0.8929	16992.78	20094.71	3101.93
2	19031	22505	3474	0.7972	15171.51	17940.99	2769.47
3	19031	22505	3474	0.7118	13546.27	16019.06	2472.79
4	19031	22505	3474	0.6355	12094.20	14301.93	2207.72
5	19031	26505	7474	0.5674	10798.19	15038.94	4240.74
6	19031	22505	3474	0.5066	9641.10	11401.03	1759.92
7	19031	22505	3474	0.4523	8607.72	10179.01	1571.29
8	19031	22505	3474	0.4038	7684.71	9087.51	1402.80
9	19031	22505	3474	0.3605	6860.67	8113.05	1252.37
10	19031	45505	26474	0.3219	6126.07	14648.06	8521.98
Total	220120	252050	31930	-	137333.20	136824.30	-508.94

Note- DF-Discounting factor,

DC- Discounted cost,

DR- Discounted return,

DNCF-Discounted net cash flow

Table 6 : Financial feasibility in different dairy farming units				
Sr. No.	Particulars	Buffalo farm	Cross breed cow farm	Indigenous cow farm
1.	Net present value (Rs.)	76755.8	102647	-508.95
2.	Initial rate of return (%)	32.65	36.31	11.7
3.	B:C ratio	1.42	1.45	0.99

Cash flows in different dairy farming unit :

Table 5 present the financial cash flows in representative dairy farming units. The result shows that the initial investment of dairy farming project is higher in cross breed cow farming unit (Rs. 68510.00), followed by buffalo (Rs. 54120.00) and indigenous cow farming unit (Rs. 29810.00). As can be seen from the tables cash inflow and cash outflow are not much varied over the years during the life of the project. The total discounted net cash flow (at 12 %) of cross breed cow farm is found to be higher (Rs. 102646.60), followed by buffalo (Rs. 76755.79) and indigenous cow farm (Rs. -508.94).

Financial feasibility in different dairy farming units:

Table 6 showed three discounting measures of the financial feasibility, namely, net present value, benefit cost ratio and internal rate of return for all three type of dairy farming units. The net present value of buffalo, cross breed cow and indigenous cow was Rs. 76755.80, Rs. 102647.00 and Rs. -508.95, respectively. It shows that the indigenous cow farms are financially not feasible. Benefit cost ratio was found to be highest in cross breed cow farm (1.45), followed by buffalo farm (1.42) and indigenous cow farm (0.99). The internal rate of return is found to be highest in cross breed cow farming unit (36.31 %), followed by buffalo farming unit (32.65%) and indigenous cow farming unit (11.7%). Since in case of buffalo and cross breed cow, these value of Internal rate of return are considerably higher than the prevailing rate of interest. Hence, they are financially feasible, but the indigenous cow farming unit was not financially feasible, because the Internal rate of return is less than prevailing rate of interest. These findings were in conformity with the Kumar *et al.* (2013); Shreya *et al.* (2014) and Wani and Wani (2010).

Conclusion :

From the study it could be clearly inferred that, the most of cross breed cow and buffalo rearing farmers were found to be following modern and scientific management practices as compare to indigenous cow rearing farmers who still follow traditional management practices because of their unwillingness due to lack of financial support. The procurement cost increases as the net income also increases. The financial feasibility is found to be higher in cross breed cow farming unit as compare to buffalo and indigenous cow. It means the cross breed cow rearing in study area is more profitable

than other breeds. The return per animal increased with increase in farm-size, indicating the existence of economies of scale on large farms.

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