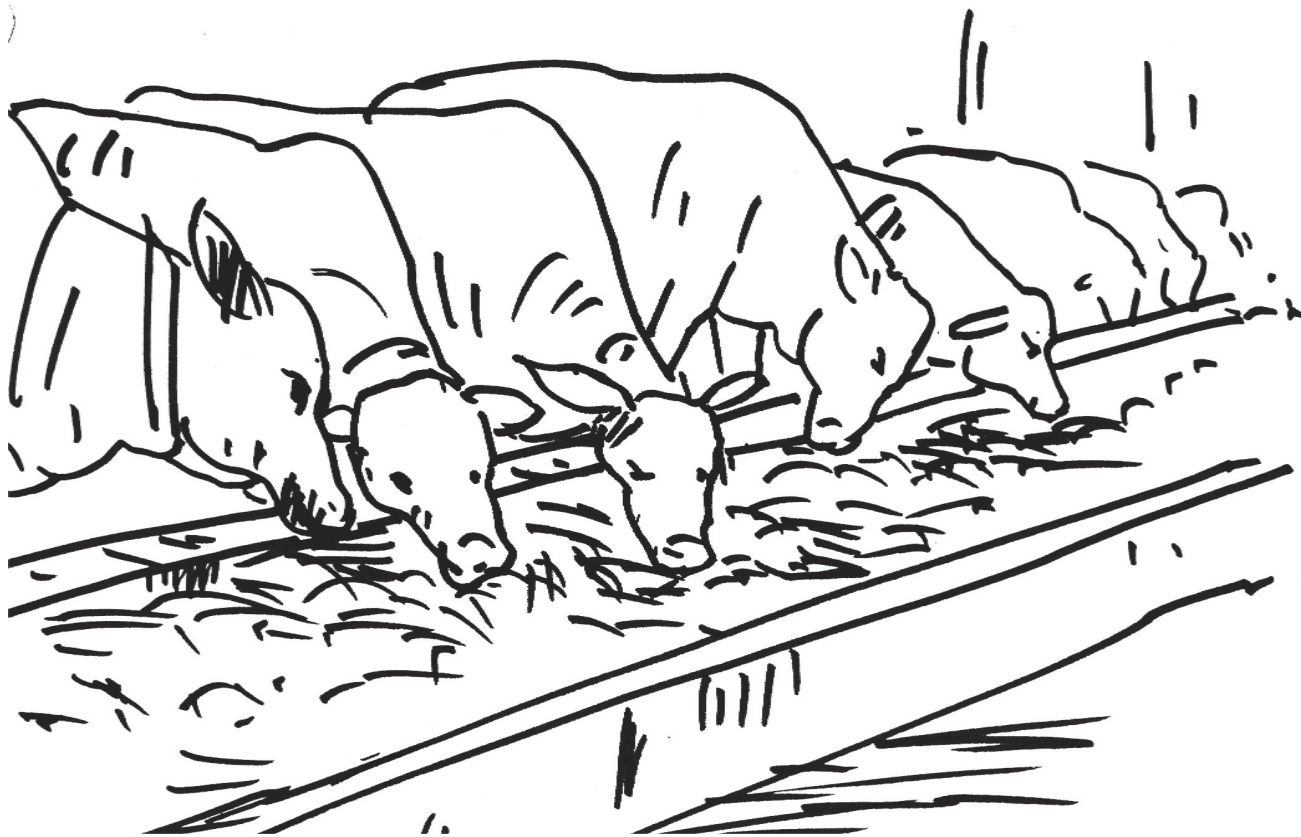


DAIRY FARMING



1.0 INTRODUCTION

Dairy farming provides an opportunity for self-employment and important source of income generation to small/ marginal farmers and agricultural labourers. India is the largest milk producer of the world.

While starting a Dairy Farm, the increasing cost of feed ingredients and its seasonal variability can be reduced by undertaking fodder cultivation.

This project profile on dairy farming is based on following assumptions:

- Freshly calved crossbred cows will be purchased in two batches of 5 animals each at an interval of 6 months.

- Availability of atleast 2 acres of land is prerequisite for cultivation of green fodder. Provision for Shallow Tube Well has been

included in the project cost for the purpose. Accordingly, expenses on green fodder have been ignored in profitability estimate.

- Cow dung produced will be utilized as manure for fodder cultivation.

- Cost of rearing calves has been ignored, as it will be adjusted by their sale.

2.0 MARKET POTENTIAL

The total milk production in the country for the year 2008-09 was estimated at 108.5 million metric tonnes and the demand is expected to be 180 million tonnes by 2020. To achieve this demand annual growth rate in milk production has to be increased from the present 2.5 % to 5%. Thus, there is a tremendous scope/ potential for increasing the milk production through profitable dairy farming.

3.0 COST OF THE PROJECT

The estimated project cost is given below.

(Rs. in lacs)	
Particulars	Amount (Rs)
Land & Site Development	0.00
Construction of Shed	2.08
Cost of Livestock	3.50
Implements & Misc. Assets	1.35
Preliminary & pre-operative expenses	0.39
Contingencies & escalation @ 3%	0.10
Working capital margin	0.16
TOTAL	7.58

3.1 Land & Site Development: No cost has been considered for land & site development. It is assumed that the project will be set up in existing farmland.

3.2 Construction of Animal Shed: Details of construction of animal shed are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Shed for 10 milch animals (Half brick wall, CGI roof, concrete floor; 40 sqft/animal)	400	400	160000
Shed for 6 calves (Half brick wall, CGI roof, concrete floor; 20 sqft/ animal)	120	400	48000
TOTAL			208000
Say (Rs. in lacs)			2.08

3.3 Cost of Livestock: Details of cost of livestock are given below.

Particulars	Qty.	Rate (Rs)	Amount (Rs)
Milch animals	10	35000	350000
Say (Rs. in lacs)			3.50

3.4 Implements & Misc. Assets: Details of implements & miscellaneous assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Chaff cutter (2 HP motor)	1	50000	50000
STW (3 HP motor)	1	75000	75000
Miscellaneous items	LS	LS	10000
TOTAL			135000
Say (Rs. in lacs)			1.35

3.5 Preliminary & Pre-operative Expenses: Details of preliminary & pre-operative expenses are given below.

Particulars	Amount (Rs)
Travelling expenses	20000
Professional & other fees	10000
Interest during implementation	3600
Miscellaneous expenses	5000
TOTAL	38600
Say (Rs. in lacs)	0.39

3.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of cost of animal shed construction, livestock and implements & miscellaneous assets.

3.7 Working Capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Amount		
		Year 1	Year 2	Year 3
Feeds & fodders	30	0.10	0.12	0.12
Power & fuel	30	0.00	0.00	0.00
Salary	30	0.06	0.06	0.06
Total		0.16	0.18	0.18
Working Capital Margin in Year 1 (100%)		0.16		

4.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

(Rs. in lacs)

Particulars	Percent	Amount (Rs)
EQUITY		
A. Equity from Promoters	40%	3.03
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	4.55
TOTAL	100%	7.58

5.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production capacity (litres/annum)	18000	16800	16800	16800	19200
Price of milk (Rs/litre)	25	25	25	25	25
Income from sales/annum	4.50	4.20	4.20	4.20	4.80
B. OPERATING EXPENSES					
Feeds & Fodders	1.19	1.44	1.44	1.44	1.54
Power	0.02	0.02	0.02	0.02	0.02
Salary	0.72	0.73	0.73	0.74	0.75
Repair & Maintenance	0.05	0.06	0.07	0.08	0.10
Miscellaneous Expenses	0.05	0.04	0.04	0.04	0.05
Total Operating Expenses	2.02	2.29	2.31	2.33	2.45
Less: Working expenses capitalised	0.16	0.00	0.00	0.00	0.00
Operating profit	2.64	1.91	1.89	1.87	2.35
C. FINANCIAL EXPENSES					
Depreciation	0.14	0.14	0.14	0.14	0.14
Interest on Term Loan	0.36	0.30	0.22	0.13	0.05
Net Profit	2.13	1.47	1.54	1.60	2.16
Net cash accruals	2.27	1.61	1.68	1.74	2.30
Principal Repayment	0.27	1.07	1.07	1.07	1.07

5.1 Production Capacity: Total production of fresh milk per annum is estimated as below.

	Year 1	Year 2	Year 3	Year 4	Year 5
<u>Lactation days (270 days/animal)</u>					
(i) 1st batch	1350	1050	1050	1050	1050
(ii) 2nd batch	900	1050	1050	1050	1350
Total	2250	2100	2100	2100	2400
<u>Dry days (150 days/animal)</u>					
(i) 1st batch	0	750	750	750	750
(ii) 2nd batch	0	750	750	750	450
Total	0	1500	1500	1500	1200
Avg. milk yield/lactating day	8	8	8	8	8
Total yield of milk per annum (litres)	18000	16800	16800	16800	19200

- x It is assumed that freshly calved milch animals are purchased in two batches of 5 nos each, with an interval of 6 months.
- x No. of lactation days and dry days is assumed at 270 and 150 days respectively.
- x No. of days per annum has been considered at 360 days.
- x No. of lactating days & dry days per annum for each batch has been scheduled based on the above assumptions.

5.2 Feeds & Fodders: Expenses on feeds & fodders is estimated as below.

Particulars	Qty/day (kg)		Rate (Rs)	Cost/day (Rs)	
	Lactation	Dry		Lactation	Dry
Concentrate Feed	3.50	1.00	12	42	12
Dry Fodder	5.50	5.00	2	11	10
Green Fodder (Own cultivation; hence cost ignored)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Expenses on feeds & fodders per annum (lactating days)	119250	111300	111300	111300	127200
Expenses on feeds & fodders per annum (dry days)	0	33000	33000	33000	26400
Expenses on feeds & fodders per annum (Rs)	119250	144300	144300	144300	153600

5.3 Power: Total expenses on power & fuel is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)	hrs/day	Kwh/day
Chaff cutter (2 HP motor)	1	0.15	0.15	2.00	0.30
STW (3 HP motor)	1	0.22	0.22	1.00	0.22
General Lighting	2	0.10	0.17	5.00	0.87
Total power requirement/day (Kw)					1.39
Days/ annum	360				
Rate per unit (Rs)	3.50				
Expenses on power per annum (Rs)	1750				

5.4 Salary: Total expenses on salary in the 1st year are estimated as given below. It is assumed that salary expenses will increase @ 1% every subsequent year.

Particulars of Employees	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager (Self)	-	-	-
Helpers	2	3000	72000
Expenses on salary in the 1st year (Rs)			72000

5.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 20% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Shed	2.08	1%	0.02
Implements & Misc. Assets	1.35	2%	0.03
Expenses on repair & maintenance in year 1			0.05

5.6 Miscellaneous Expenses: Miscellaneous expenses have been assumed at 1% of income.

5.7 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)

Description	Cost (Rs)	Rate	Amount/ annum (Rs)
Shed	2.08	3.34%	0.07
Implements & Misc. Assets	1.35	5.28%	0.07
TOTAL			0.14

5.8 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 9 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5
Month 1	Opening balance	4.55	4.28	3.21	2.14	1.07
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest (8%)	0.03	0.03	0.02	0.01	0.01
	Closing balance	4.55	4.19	3.12	2.05	0.98
Month 2	Opening balance	4.55	4.19	3.12	2.05	0.98
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.03	0.02	0.01	0.01
	Closing balance	4.55	4.10	3.03	1.96	0.89
Month 3	Opening balance	4.55	4.10	3.03	1.96	0.89
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.03	0.02	0.01	0.01
	Closing balance	4.55	4.01	2.94	1.87	0.80
Month 4	Opening balance	4.55	4.01	2.94	1.87	0.80
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.03	0.02	0.01	0.01
	Closing balance	4.55	3.92	2.85	1.78	0.71
Month 5	Opening balance	4.55	3.92	2.85	1.78	0.71
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.03	0.02	0.01	0.00
	Closing balance	4.55	3.83	2.76	1.69	0.62
Month 6	Opening balance	4.55	3.83	2.76	1.69	0.62
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.03	0.02	0.01	0.00
	Closing balance	4.55	3.74	2.67	1.60	0.53
Month 7	Opening balance	4.55	3.74	2.67	1.60	0.53
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.02	0.02	0.01	0.00
	Closing balance	4.55	3.66	2.59	1.52	0.45
Month 8	Opening balance	4.55	3.66	2.59	1.52	0.45
	Repayment	0.00	0.09	0.09	0.09	0.09

	Interest	0.03	0.02	0.02	0.01	0.00
	Closing balance	4.55	3.57	2.50	1.43	0.36
Month 9	Opening balance	4.55	3.57	2.50	1.43	0.36
	Repayment	0.00	0.09	0.09	0.09	0.09
	Interest	0.03	0.02	0.02	0.01	0.00
	Closing balance	4.55	3.48	2.41	1.34	0.27
Month 10	Opening balance	4.55	3.48	2.41	1.34	0.27
	Repayment	0.09	0.09	0.09	0.09	0.09
	Interest	0.03	0.02	0.02	0.01	0.00
	Closing balance	4.46	3.39	2.32	1.25	0.18
Month 11	Opening balance	4.46	3.39	2.32	1.25	0.18
	Repayment	0.09	0.09	0.09	0.09	0.09
	Interest	0.03	0.02	0.02	0.01	0.00
	Closing balance	4.37	3.30	2.23	1.16	0.09
Month 12	Opening balance	4.37	3.30	2.23	1.16	0.09
	Repayment	0.09	0.09	0.09	0.09	0.09
	Interest	0.03	0.02	0.01	0.01	0.00
	Closing balance	4.28	3.21	2.14	1.07	0.00
Principal Repayment		0.27	1.07	1.07	1.07	1.07
Interest		0.36	0.30	0.22	0.13	0.05

6.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	TOTAL
Net Profit	2.13	1.47	1.54	1.60	2.16	
Depreciation	0.14	0.14	0.14	0.14	0.14	
Interest	0.36	0.30	0.22	0.13	0.05	
Total	2.64	1.91	1.89	1.87	2.35	10.67
Interest	0.36	0.30	0.22	0.13	0.05	
Loan repayment	0.27	1.07	1.07	1.07	1.07	
Total	0.63	1.37	1.29	1.20	1.12	5.61
DSCR	4.19	1.39	1.47	1.56	2.11	

Average DSCR = 1.90

7.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	4.50	4.20	4.20
B. Variable cost			
Feeds & Fodders	1.19	1.44	1.44
Power	0.02	0.02	0.02
Other expenses	0.05	0.04	0.04
Total variable cost	1.25	1.50	1.50
C. Contribution (A-B)	3.25	2.70	2.70
D. Fixed & Semi-fixed Costs			
Salary	0.72	0.73	0.73
Repair & maintenance	0.05	0.06	0.07
Interest on Term Loan	0.36	0.30	0.22
Depreciation	0.14	0.14	0.14
Total fixed cost	1.27	1.23	1.16
E. BREAK EVEN POINT	39.15%	45.54%	43.06%

8.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	6.93	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	0.16	0.02	0.00	0.00	0.00
Total (A)	6.93	0.16	0.02	0.00	0.00	0.00
CASH INFLOW						
Profit After Tax		2.13	1.47	1.54	1.60	2.16
Add: Depreciation		0.14	0.14	0.14	0.14	0.14
Add: Interest		0.36	0.30	0.22	0.13	0.05
Add: Salvage Value (10%)						0.69
Total (B)	0.00	2.64	1.91	1.89	1.87	3.04
NET FLOW (B-A)	-6.93	2.48	1.89	1.89	1.87	3.04

IRR = 18%