DAIRY FARMING (COW)

PROJECT REPORT

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BLACK MOON DAIRY FARM PVT.LTD

No.57/3, Abirami Nagar, II nd Street, Musiri, Trichy - District, Tamil Nadu, INDIA 621211. Mobile & WhatsApp +919786036041.
E-mail :- orangedairyfarm@gmail.com , blackmoondairyfarm@gmail.com,info@blackmoongroups.com.
Website:- www.blackmoongroups.com

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Project at a Glance

Name & Address of Project

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Project Profile

Particulars	Value
Constitution	Proprietorship
Dairy breed	Jersey Cow / Native Cow
Unit size	500
Product(s)	Milk, manure, animals, empty gunny bags
Total project cost	508,938,000
Total bank loan	458,044,200
Interest rate on loan (%)	5.00
Bank loan repayment	5 Years

Project Financial Indicators

Particulars	Value
BCR @ 15% DF	1.21 : 1
NPW @ 15% DF	139,156,973
DSCR	1.31
IRR (%)	6.30

Promoter Profile

Particulars	Value
Name	K. Kalai Selvan - Founder & C.E.O of Black Moon Dairy Farm Pvt.Ltd
Address	57/3, Abirami Nagar, II nd Street, Musiri, Trichy - District, Tamil Nadu, INDIA
Phone	+919786036041
E-mail	kalaiselvak@gmail.com ,orangedairyfarm@gmail.com. www.blackmoongroups.com
Date of Birth	18.06.1981
Qualification	Diploma in Agriculture & M.B.A
Experience	I am completed the Diploma in Agriculture & Animal Husbandry at Gandhiram Rural University -Dindigul, Tamil Nadu, and INDIA. And B.B.A & M.B.A at Anamalai University ,Tamil Nadu , India He having 15 years working and practical knowledge in Agronomy, Dairy, Pathology, environment and conservation, livestock, waste management, other technical applications and Animal husbandry Agricultural consultants and advisers solve problems for their clients, to ensure their business or enterprise is running as efficiently as possible. State and financial management advice for agricultural businesses and farms. Technical and analytical skills with the ability to explain findings clearly. Organize and conduct field trials to find solutions to clients' problems. Plan and implement improvements for the client such as using more effective pest control measures or finding more efficient ways to keep and feed livestock, research and keep up to date with any relevant developments in agriculture, organize presentations, demonstrations, training and farm walks for clients, colleagues, partnership organizations, professional bodies and other interested groups.

Introduction

Dairy farming is a very good source of employment throughout the year. The best beneficiary of dairy farming is small to medium farmers with or without farmland. Landless farmers and farm labourers are also benefited from animal husbandry specially from dairy farming.

Dairy is not just a source of milk, it is a complete source of livelihood. Along with the milk, cow dung, biogas, gomutra etc. can be sourced from dairy farming. Milk can be sold and consumed directly or can be used to make milk based products like card, ghee, ice cream etc. Cow dung can be used to make manure to be used in the farm for enhancement of soil fertility or it can be used as a source of fuel. The cow urine and Panchagavya can be used as biopesticide to repel pests in the farm.

After the white revolution India is now leading milk producer in the World. With the availability of modern dairy technology, specialized foods, crossbreed high milk producing cows, business capital and Govt. effort in the form of subsidy and research institutes the production of milk is increasing steadily.

With the increase in household income, the demand and price for milk and milk products have been increasing simultaneously. The demand of milk in India will be increased to 180 million tonnes by 2020 from 127.9 million tonnes of production in 2011-2012. To fulfil this increased demand, growth rate of milk production must be increased from current rate. This is why the popularity of standalone dairy farming is increasing rather than traditional mixed farming to increase milk production.

In the current scenario, dairy farming is a profitable venture if input sources are easily available and the farm is managed properly. Marketing of milk is not a problem as there is always a high demand of milk, even farmers can sell milk at farmgate.

Dairy Farming Technology

Farm Location

The area chosen for this project is suitable for dairy farming. It is accessible from main road and nearby area has a steady demand for raw milk. The project site will be developed properly for a secure dairy farm.

Capacity of the Farm

Capacity of the farm is 500 milch animals. All the animals will be purchased from verified dependable source.

Buildings & Structures

There will be separate sheds for adult animals (32,500 sq.ft.) and calves (27,500 sq.ft.). There will be a staff quarter cum office (5,000 sq.ft.) and a milk room (200 sq.ft.). Water tank with capacity of 50,000 litre will be added for drinking, cleaning and fodder preparation.

Equipment and Plant and Machinery

The farm will need 50 chaff cutter, 50 milking machine, 10 electric motor, 2 generator set. Besides these, there will be other equipments like milk can, bucket, weighing machine, wheelbarrow etc.

Feeding

The feed will be cheap, nutritious, balanced and easily digestible. Clean drinking water will be easily available to the animals. Dairy cows need 2.5 kg. to 3 kg. dry fodder per 100 kg. of body weight. This dry matter is supplied with the green fodder. 1 kg. of concentrate feed is required for every 3 kg. of milk production.

Veterinary and Breeding Facilities

Veterinary centre, veterinary staff on field visit, semen for artificial breeding is available in close proximity.

Electricity

Supply of electricity is good and enough for the proposed dairy farm. Generator set could be arranged in case of power failure.

Marketing of Milk

Milk will be sold in both bulk and retail. Nearby cooperative societies, milk unions will buy milk in bulk. Households, hotels, tea shops, sweet shops will buy milk in retail. Generally retail price will be higher than the bulk price.

Marketing of Byproducts

Old and non-milking animals will be sold. Cow dung will be sold directly or could be used to produce manure to be sold or used in green fodder cultivation. Cow urine will be used to produce bio-pesticide to be sold or used in own farm. Empty gunny bags will be sold in nearby market.

Scope for Dairy Farming

India ranked no. 1 globally for milk production in 2017 as per United Nations Food and Agriculture Organization. As per the report, global milk production increased from 800.2 million metric tonnes in 2016 to 811.9 million metric tonnes in 2017. In the same period India's milk production was increased from 165.40 million metric tonnes to 176.35 million metric tonnes.

As per National Sample Survey Organization(NSSO), average rural monthly per capita household consumption of milk & milk products was Rs. 116.13 in 2012 which is next to only cereals (Rs. 153.13). Consumption of milk & milk products are increasing rapidly for the last few years. In 2010, monthly average was Rs. 80.16 and in 2006 was 47.31 for milk & milk products. So, it increased around 2.5 times from 2006 to 2012.

The availability of milk will be increased to 592 gm/day/capita in 2023-24 from 375 gm/day/capita in 2017-18 as per estimation. As per national plan, India needs 240 million metric tonnes milk production in 2025. Despite the growing of milk production in the last few years there will be a huge gap between demand and supply if milk production not increased in higher rate.

There is an increasing demand in organically produced agriculture products such as fruits and vegetables. Various by-products along with milk will be produced from dairy farming which could be used as input source for organic farming. Cow dung could be used for producing organic manure, cow urine could be used for preparing of bio-pesticide. Bio gas could also be produced from cow dung which could be used as a power source.

SWOT Analysis

Strengths in Dairy Farming

- India ranks no. 1 in livestock population, cattle population, buffalo population and milk production. This is a sustainable population as cow is considered a divine animal in India.
- Demand for milk is very high round the year and it is more than supply.
- Cow is considered a divine animal in India and has positive effect on society. Demand for cow milk grows rapidly on some occasions as cow milk is a must for various rituals over the year.
- Growing purchasing power for consumers. Milk & milk products is the second most consumed product just after cereals.
- Production cost of milk is comparatively low and margin from milk is reasonably high.
- Availability of raw materials and trained manpower.
- Educational and research institutes for dairy technology.
- Govt. support for dairy industry.

Weakness in Dairy Farming

- Though India ranked no. 1 in milk production but milk productivity is not good.
- There is no control on milk production. Lack of proper management increases the uncertainty in milk production.
- Shelf life for milk is very low. Cold chain facility and retailing is not properly developed.
- 80 percent of the dairy industry is unorganized. There is lack of data for future planning.
- Milk quality and milk collection procedure is not optimum all over India.
- Recently, not only dairy industry but the whole agriculture sector is facing labour shortage problem.

Opportunities in Dairy Farming

- Good management practices could increase milk productivity.
- Mechanization and proper management could overcome the labour shortage problem.
- Improving veterinary services will improve animal health and overall production.
- Value addition is a very good scope in dairy industry. Besides raw milk there is increasing demand in various milk based products like milk shake, paneer, ice cream, ghee etc.
- Latest packaging technology could increase shelf life of milk and milk products.
- Potential in export for milk products is increasing.

Threats in Dairy Farming

- Food safety is a big concern as milk collection process is not optimal and unhygienic in most of the unorganized sector.
- Indian dairy mostly depends on green fodder like green grass, agriculture residue etc. In case of natural calamities, food source will be affected and the dairy industry also.
- There is no control on use of various drugs.
- Export to the US and European Union is not easy due to their strong policies.

Basic Parameters

Technical Parameters

Sl.	Item	Unit	Value
1	Land for fodder cultivation	Acre	30
2	Covered area per adult animal	Sq.ft.	65
3	Covered area per calf	Sq.ft.	55
4	Inter-calving period	Days	400
5	Unskilled labour	No.	50

The land selected for the project is owned by the promoter, therefore no additional cost for land has been added. The inter-calving period has been calculated by assuming 280 lactation days and 120 dry days. The cows will be purchased in 2 batches with an interval of 6 months for the dairy project. Male calves and milking cows after the 3rd lactation will be sold to maintain the dairy size and profitability. Selling price of old animals is assumed as ⅔ of their original cost. The sale price of calves will be used to rear them, therefore the rearing cost of calves has not been added to the project cost.

Economic Parameters

Sl.	Item	Unit	Value
1	Interest rate on bank loan	%	5.00
2	Period of repayment	Years	5

Expense Parameters

Sl.	Item	Unit	Rate Rs.
1	Cow shed	Rs./sq.ft.	2,000
2	Staff room cum office and milk room	Rs./sq.ft.	1,000
3	Electricity and water	Rs./month	5,000
4	Complete set of milking machine	Rs.	1,000,000
5	Electric motor	Rs.	50,000
6	Motorised chaff cutter	Rs.	50,000
7	Other equipments	Rs./animal	150,000
8	Cow	Rs./animal	150,000
9	Transportation of cow	Rs.	20,000
10	Fodder cultivation	Rs./acre/annum	50,000
11	Dry feed	Rs./kg.	5
12	Concentrate feed	Rs./kg	10
13	Unskilled labour	Rs./labour/annum	500,000
14	Veterinary and breeding	Rs./animal/annum	50,000
15	Insurance premium	%	4.00

Income Parameters

Sl.	Item	Unit	Value
1	Milk production	Liters/day/cow	40
2	Milk price	Rs./liter	35
3	Manure production	Tonnes/year/cow	10
4	Manure price	Rs./tonn	5,000
5	Empty gunny bags	Bags/animal/year	200
6	Empty gunny bag price	Rs./bag	5

Project Cost

Sl.	Item	Unit	Unit Rate	Quantity	Amount Rs.
1	Land development				150,000,000
2	Electrification				500,000
3	Cow shed for adult animal	Sq.ft.	2,000	32,500	65,000,000
4	Cow shed for calves	Sq.ft.	2,000	27,500	55,000,000
5	Staff room cum office	Sq.ft.	1,000	5,000	5,000,000
6	Milk room	Sq.ft.	1,000	200	200,000
7	Water tank	Ltr.		50,000	1,000,000
8	Complete set of milking machine	Nos.	1,000,000	50	50,000,000
9	Electric motor	Nos.	50,000	10	500,000
10	Motorised chaff cutter	Nos.	50,000	50	2,500,000
11	Generator set	Nos.	45,000	2	90,000
12	Other equipments	Rs./animal	150,000	500	75,000,000
13	Cow	Nos.	150,000	500	75,000,000
13	Transportation of cow				20,000
	Total				479,810,000
14	Preliminary expenses	%	5		23,990,500
15	Working capital				5,137,500
	Total Project Cost				508,938,000

Other equipments are milk buckets, milk cans, weighing machine, various small tools etc.

Working Capital Computation

Sl.	Item	Unit	Unit Rate	Quantity	Amount Rs.
1	Fodder cultivation	Acre	50,000	30	1,500,000
2	Dry + Concentrate feed	/day/animal	85	7,500	637,500
3	Insurance	%	4.00		3,000,000
	Total Working Capital				5,137,500

This working capital is computed for the first month of the first batch of animal. Thereafter the working capital will be generated by the project itself.

Means of Finance

Sl.	Item	Amount Rs.
1	Term loan	453,420,450
2	Working capital loan	4,623,750
3	Total loan	458,044,200
4	Term loan contribution	50,380,050
5	Working capital contribution	513,750
6	Total contribution	50,893,800

The project is financed as follows-

Promoter contribution (10 %) : 50,893,800
Bank loan (90 %) : 458,044,200

Feeding Cost

Sl.	Fodder	Cost/Kg.	During Lactation		During Dry Period	
			Quantity Kg.	Cost Rs.	Quantity Kg.	Cost Rs.
1	Green fodder	0	30	0	20	0
2	Dry feed	5	5	25	6	30
3	Concentration feed	10	6	60	2	20
	Total			85		50

The feeding cost is calculated per animal per day basis. The cost of green fodder is not included in this table as the cost of fodder cultivation has been added in the working capital computation.

Lactation Day Calculation

Year	Batch	Total Cows	Lactation Days/Cow	Total	
1st Year	1st Batch	250	250	62,500	98,750
	2nd Batch	250	145	36,250	
2nd Year	1st Batch	250	280	70,000	131,250
	2nd Batch	250	245	61,250	
3rd Year	1st Batch	250	280	70,000	131,250
	2nd Batch	250	245	61,250	
4th Year	1st Batch	250	280	70,000	131,250
	2nd Batch	250	245	61,250	
5th Year	1st Batch	250	280	70,000	131,250
	2nd Batch	250	245	61,250	

Dry Day Calculation

Year	Batch	Total Cows	Dry Days/Cow	Total	
1st Year	1st Batch	250	115	28,750	28,750
	2nd Batch	250	0	0	
2nd Year	1st Batch	250	85	21,250	51,250
	2nd Batch	250	120	30,000	
3rd Year	1st Batch	250	85	21,250	51,250
	2nd Batch	250	120	30,000	
4th Year	1st Batch	250	85	21,250	51,250
	2nd Batch	250	120	30,000	
5th Year	1st Batch	250	85	21,250	51,250
	2nd Batch	250	120	30,000	

Production Calculation

Year	Milk (Liters)	Manure (Tonnes)	Old Cows (Nos.)	Empty Bags (Nos.)
1st Year	3,950,000	3,750	0	75,000
2nd Year	5,250,000	5,000	0	100,000
3rd Year	5,250,000	5,000	0	100000
4th Year	5,250,000	5,000	125	100000
5th Year	5,250,000	5,000	125	100000
Total	24,950,000	23,750	250	475,000

Profitability Statement

Item	1st Year	2nd Year	3rd Year	4th Year	5th Year
Revenue					
Revenue from milk	138,250,000	183,750,000	183,750,000	183,750,000	183,750,000
Revenue from manure	18,750,000	25,000,000	25,000,000	25,000,000	25,000,000
Salable animals	0	0	0	12,500,000	12,500,000
Gunny bags	375,000	500,000	500,000	500,000	500,000
Total Revenue	157,375,000	209,250,000	209,250,000	221,750,000	221,750,000
Expenditure					
Feed during lactation	8,393,750	11,156,250	11,156,250	11,156,250	11,156,250
Feed during dry days	1,437,500	2,562,500	2,562,500	2,562,500	2,562,500
Green fodder cultivation	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Electricity and water	60,000	60,000	60,000	60,000	60,000
Vaterinary and breeding	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Unskilled labour	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Transportation	24,000	24,000	24,000	24,000	24,000
Insurance premium	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Total Expenditure	64,415,250	68,302,750	68,302,750	68,302,750	68,302,750
Net Income	92,959,750	140,947,250	140,947,250	153,447,250	153,447,250

(All figures are in Rs.)

Benefit-Cost Ratio

Cost Calculation

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year
Capital cost	503,800,500	0	0	0	0
Recurring cost	64,415,250	68,302,750	68,302,750	68,302,750	68,302,750
Total Cost	568,215,750	68,302,750	68,302,750	68,302,750	68,302,750

(All figures are in Rs.)

Depreciations after 5th Year

Particulars	Rate *	Value
Fixed asset like housing, cow shed, borewell, fencing etc.	10%	163,388,583
Equipments and tools	15%	56,834,213
Closing stock of animals	10%	44,286,750

(* Yearly depreciation rate)

Benefit Calculation

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year
Benefit	157,375,000	209,250,000	209,250,000	221,750,000	221,750,000
Benefit with assets	157,375,000	209,250,000	209,250,000	221,750,000	486,259,546
Net Benefit	-410,840,750	140,947,250	140,947,250	153,447,250	417,956,796

(All figures are in Rs.)

Value Calculation

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year
Discounting Factor @ 15%	0.87	0.76	0.66	0.57	0.50
NPV of cost @ 15% DF	494,347,703	51,910,090	45,079,815	38,932,568	34,151,375
NPV of benefits @ 15% DF	136,916,250	159,030,000	138,105,000	126,397,500	243,129,773

Total NPV of cost @ 15% DF	:	664,421,550
Total NPV of benefits @ 15% DF	:	803,578,523
NPW @ 15% DF	:	139,156,973
BCR @ 15% DF	:	1.21 : 1
IRR (%)	:	6.30

Repayment of Loan

Annual rate of interest on term loan : 5.00
Total term loan outstanding at the beginning : 458,044,200

Year	Loan Outstanding at the Beginning	Principal Repayment	Interest	Amount Paid	Outstanding at the End
1	458,044,200	91,608,840	22,902,210	114,511,050	366,435,360
2	366,435,360	91,608,840	18,321,768	109,930,608	274,826,520
3	274,826,520	91,608,840	13,741,326	105,350,166	183,217,680
4	183,217,680	91,608,840	9,160,884	100,769,724	91,608,840
5	91,608,840	91,608,840	4,580,442	96,189,282	0

(All figures are in Rs.)

Debt Service Coverage Ratio

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year
Net income	92,959,750	140,947,250	140,947,250	153,447,250	153,447,250
Loan repayment	114,511,050	109,930,608	105,350,166	100,769,724	96,189,282
Surplus	-21,551,300	31,016,642	35,597,084	52,677,526	57,257,968
DSCR	0.81	1.28	1.34	1.52	1.60

(All figures are in Rs.)

Average DSCR : 1.31

Conclusion

This project report describes the economical, social, technical and marketing scope and viability of dairy farming (cow). The financial indicators of this project are as follows: DSCR- 1.31 , BCR @ 15% DF- 1.21 : 1. The project will generate direct employment of 50 . This dairy project will also generate self employment throughout the year.