

PROJECT PROFILE

ON

SHG - OTHER INDUSTRIES

DAIRY PROJECT

Month & Year
December 2008

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DAIRY PROJECT

INTRODUCTION

Milk is a precious diet highly essential for human beings from a day old baby to the old aged person. The existing demand and growth potential for fresh milk is phenomenal. As on date, in India the per capita availability of milk is 220 gms/day. But, as per the Indian Council of Medical Research (ICMR), the per capital requirement is 250 gms/day. WHITE REVOLUTION aimed through “Operation Flood” was targeted to achieve per capita consumption of 195 gms of milk focused greater attention to build up more organized Dairy farms combining with fodder development in the areas of plantation and Agro-forestry to improve the rural economy. Hence, Dairy farming plays a vital role in improving rural economy as it provides not only subsidiary income but also gainful employment.

Dairy farming is taken up either as a main occupation or most commonly, as a subsidiary occupation by agriculturalist to supplement their income from farm/non-farm activities. Besides providing milk and manure, dairy farming mixed with crop cultivation and plantation reduces seasonality of farm income and provides continuous flow of income. With the launching of “Operation Flood”, the farmers are becoming aware of improved dairy practices. Government support and arrangements for cross breeding by artificial insemination with exotic germ plasm coupled with the establishment of organized milk collection, processing and distribution facilities have given an impetus to dairy farming.

India is today recognised as the biggest milk producer in the world. But, compared to International Dairy development process, it is obvious that dairy development process in India is in the first stages. India, with present volumes, is satisfying the local demand for milk and milk products. From a nutritional point of view it is still desirable to increase the per capita consumption dramatically.

The overriding challenge to Indian Milk Production is to increase the yield per animal. Better feeding and better animal health service will immediately increase production for existing animals. The long dry periods will be shortened as well. The large proportion to non-productive animals is another burden to the Indian dairy industry. With a systematic breeding work on state or national levels the genetic potential will improve and better feeding and management will be even more rewarded with higher yields.

The other main field for improvement is hygiene and raw milk quality. This is necessary to avoid spoilage and to make a suitable quality available to urban population and consumers not having their own animals. The improved quality is a pre-requisite for export to many countries. Improved quality can only be

achieved through training of the farmers and application of technologies allowing good milk handling and preservation.

MARKET

Demand for milk and its products have always been very high in our country. Though India ranks first in the world in terms of total milk production, the percapita consumption of milk is still very low compared to the recommended level of 240 gms per person per day. The Chennai city area alone needs around 11 lakh litres per day.

At present the consumption of liquid milk accounts for about 46% of the total milk production. The balance 54% is utilized for conversion to milk products. Out of this, the share of the organised sector is less than 10%.

TECHNICAL ASPECTS OF THE PROJECT

LOCATION OF THE PROJECT

The Dairy farm has to be located in an area where there is good facility for the green grass .Normally 1 acre is sufficient for growing grass for 10 cows. This is besides the dairy farm site for sheds.

BACKGROUND

Cross-bred Jersey cows comprising of 10 animals are proposed in this dairy project. The cross bred milch cow is considered superior to local indigenous breeds of cow in view of the following reasons:

1. Higher milk yield i.e. above 10 Litres/day
2. Longer lactation period (300 days)
3. Shorter dry period (60-75 days)
4. Shorter intercalving period and more calvings during life time
5. Early age of maturity
6. The average gestation period is 280 days
7. The normal economic life is 8 lactations.

INFRASTRUCTURAL REQUIREMENTS

LAND DEVELOPMENT

The cost of land is not taken into account as it is assumed that the promoter owns this land. Fencing and other costs can be minimized.

CIVIL STRUCTURES

Cattle sheds (barn system) will be located on a high, well-drained land and will be constructed with east-west orientation, to avoid direct sunlight. The long axis of the shed will be kept open to allow fresh air. The floor will be

hard, non-slippery, impervious, well sloped (1 in 40) and properly drained to remain dry and clean.

EQUIPMENT

Basic equipment like feed pail, water pail, buckets etc., needed for the farm are provided. For collection as well as for transport of milk to the market centres, milk cans, usually of 40 litres, need to be procured. Aluminium cans are preferred and the cost of an aluminium can of 40 litre capacity is around Rs. 1950. Further, equipment like chaff cutter for better utilisation of fodder are also included.

FODDER CULTIVATION

Fodder from one acre will be sufficient to feed 10 animals throughout the year. This cost includes the cost of slips, fertilizer, labour etc., upto 90 days.

MINOR IRRIGATION STRUCTURES

The site selected should be endowed with good water potential.

WORKING CAPITAL

An amount of Rs. 0.13 lakh is needed as working capital to meet the cost of Insurance and initial feeding for 15 days for the first batch of 10 animals.

AVAILABILITY OF INPUTS

ANIMALS

Selection of breed depends upon the market conditions. Jersey crossbreeds need to be selected. Jersey crosses on the other hand bear summer well and hence these are selected for the farm. Cross bred cows would be selected during the second/third lactation, preferably in the first month with female calf at heel. Animals will be purchased in two batches of 5 each, after watching three consecutive milkings. The present rate is around Rs. 1300-1500 per litre of milk yield per day.

FEEDING

Feed is the single largest item of expenditure in commercial dairy farming. Feeding comprises giving balanced rations in correct quantities to each animal, proportionate to its body requirements and productive capacity. However superior a dairy animal be genetically, it is of no use unless it is properly fed and managed to achieve maximum production.

The feeding of dairy animals comprises of fodder (Green and dry) and concentrate feed. Of the total fodder given, two thirds should be in the form of greens and one third should be dry fodder. Concentrate feed is given in proportion to their production (1 kg per every 2.5 – 3 litres of milk production as well for maintenance 1 kg per day). For a dairy animal weighing around 350-400 kg and giving 10 litres of milk per day, the daily feeding requirement will be 5 kg of dry fodder (paddy straw, hay), 20 kg of green fodder (Lucerne, Napier, Co-l) and 5 kgs of concentrate feed.

Locally available ingredients would be used in preparation of concentrate feed to reduce the cost. A typical ratio, costing around Rs. 5/kg is given.

Cereals/Milletts (Maize, Ragi, Jowar, Bajra etc)	35-45 parts
Oilcakes (Groundnut, Soyabean, Sunflower, etc)	25-35 parts
Cereal byproducts (rice bran, Wheat bran etc)	15-25 parts
Mineral mixture	1 part
Salt	1-2 parts
Vitamin Mixture (Vit A & D3)	20-30 parts

BREEDING

Cows breed throughout the year. It will be ensured that animals will be bred within 90 days of calving. Some of the cows may not conceive and pose a management problem. Animals with poor reproductive performance would be removed and replaced with young ones. It is advisable to replace at least 10% of adults every year, so that the foundation stock remain highly productive.

CARE OF CALF

The figure of any dairy unit depends upon the how well the calves are raised. Even if a calf is the outcome of a scientific breeding system, if it is not properly fed and managed, it will not attain the large size necessary for maximum production. It is said that “good animals are raised, not purchased”. Nobody can go on purchasing good animals of high pedigree endlessly. One has to raise one’s own calves to make a good herd. Calf rearing would be taken up on scientific lines and economically achieved. Male calves are usually sold after 3 months and the female are adequately taken care of so that these can replace the adults at a future date.

VETERINARY CARE

Animals will be vaccinated regularly against Rinderpest (RP), Hemorrhagic Septicemia (HS), Foot and Mouth Disease (FMD), Black Quarter (BQ) and Anthrax. A schedule of vaccination will be prepared in consultation with local veterinarian, keeping in view the local disease pattern and the type of animals reared. Deworming against the infestation of internal parasites will be undertaken biannually, i.e., at the onset of monsoon and again at the end of monsoon. A local veterinary doctor can be identified and approached for the consultation.

INSURANCE

Insuring the dairy enterprise against epidemics, natural calamities etc., is needed to minimize risk. Animals and the fixed assets like sheds, equipments, plant and machinery will be brought under comprehensive insurance cover offered by various units under General Insurance Corporation. The rates of premium vary depending upon the nature of insurance cover. The premia for cattle is around 0.5% of the cost per year.

FODDER CULTIVATION

Green fodder is rich in protein, highly palatable and contributes to bulk. Growing green grasses is the most convenient way to provide feed economically for production of milk. Improved fodder varieties like Hybrid Napier, Co I & II, Desmanthus etc., yielding around 60 to 80 tons per acre are available and these will be grown. Fodder from one acre of irrigated land is sufficient for 10 animals.

LABOUR

Dairy farming is a labour intensive activity. Labourers are required for the farms, fodder plot and marketing activities. On an average, one labourer can take care of 10 animals in the farm.

TECHNO-ECONOMIC PARAMETERS
SPACE REQUIREMENT OF ANIMALS

Sl.No	Types of animal	Floor space per animal (sq.ft)		Length per Animal (inches)
		Covered area	Open area	
1.	Adult Cow	30-40	80-100	20-24
2.	Adult Buffalo	40-50	80-100	24-30
3.	Young stock	15-24	50-60	15-20
4.	Pregnant cows	100-120	180-200	24-30
5.	Sick animals	100-120	180-200	24-30
6.	Bulls pen	120-140	200-250	24-30

PROJECT COST & MEANS OF FINANCE

The total project cost is estimated at Rs.3.50 lakhs as per details given below:

PROJECT COST						Rs.lakhs
						Project
Cost of Animals	10	animals	@	Rs. 20000	/animal)	2.00
Civil Structures-						
a. Shed for adult animals(40 sft/animal)	400	sq.ft	@	Rs. 97	/sq.ft	0.39
b. Shed for calves	200	sq.ft	@	Rs. 55	/sq.ft	0.11
c. Feed store	200	sq.ft	@	Rs. 144	/sq.ft	0.29
d. Electrification for the above	1	set	@	Rs. 15000	/ls	0.15
Minor Irrigation structures-						
a. Borewell	1	nos	@	Rs. 30000	/borewell	0.33
b. Milk cans (40 L capacity)	5	nos	@	Rs. 1950	/can	0.10
Working capital- capitalised						
a. Insurance cost	10	animals	@	Rs. 1000	/animal	0.10
b. Feed for 15 days	10	animals	@	Rs. 300	/animal	0.03
Grand Total						3.50

MEANS OF FINANCE

CAPITAL	Project 0.50
TERM LOAN	3.00
	3.50

INCOME & EXPENDITURE

The Income & Expenditure statement projected for 6 years is given in Annexure.

The assumptions on profitability are summarized as given below:

1. Sales of Milk

Years	1	2	3	4	5
Milk Produced (No of litres)	21600	28800	28800	30600	31200
Selling Rate	Rs.10 per litre				
Sales Value-					
Rs. lakhs	2.16	2.88	2.88	3.06	3.12

The milk produced is calculated on the basis of milk flow chart which is based on number of lactation period and dry days for each batch of cows to be introduced.

2. Sale of Manure & Gunny bags is estimated at Rs.200 per cow.
3. Sale value of calves is calculated at Rs.100.00 and sale value of female calf is calculated at Rs.100.00. The Male calf will be sold from first year itself and female calf will be sold from 3rd year onwards.
4. Sale value of culled animals is calculated at Rs.1000. The number of culled cows are calculated as per Herd Chart prepared.
5. The value of concentrated feed is calculated at normal rates.

6. Interest on Term Loan is calculated at 10% per annum on reducing balance.

7. Income tax is not provided as dairy farming activity is exempted from income tax.

PROFITABILITY RATIOS

The project ensures good profits on investment and sales turnover.

DEBT SERVICE COVERAGE RATIO

The debt service coverage ratio of this concern is very high as the Term loan component is too low and the returns are high in this project.

7. INCOME & EXPENDITURE STATEMENT

Particulars	1	2	3	4	5	6
<u>Income</u>						
Milk production	21600	28800	28800	30600	31200	31200
Selling Rate/litre	Rs.10.00					
From Sale of Milk	2.16	2.88	<u>2.88</u>	3.06	3.12	3.12
From Sale of Manure & gunny bags	0.02	0.02	0.02	0.02	0.02	0.02
From Sale of Calves						
a. Males	0.01	0.01	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>
b. Females		<u>0.10</u>	<u>0.10</u>	0.10	0.10	0.10
From Sale of culled animals		0.01	0.10	0.10	0.10	0.10
Total Income	2.19	3.02	3.11	3.29	3.35	3.35
<u>Expenditure</u>						
On Concentrate Feed	0.45	0.69	0.69	0.72	0.73	0.73
On Green Fodder cultivation	0.09	0.18	0.18	0.18	0.18	0.18
On Dry Fodder	0.09	0.18	0.18	0.18	0.18	0.18
On Veterinary Aid	0.07	0.14	0.14	0.14	0.14	0.14
On Labour	0.24	0.24	0.24	0.24	0.24	0.24
On Insurance	0.10	0.10	0.10	0.10	0.10	0.10
On Electricity and Water	0.02	0.04	0.04	0.04	0.04	0.04
On Rearing of Heifer	0.05	0.10	0.10	0.10	0.10	0.10
Sub-Total	1.11	1.67	1.67	1.70	1.71	1.71

Administrative overheads						
Salaries to administrative staff	0.43					
Vehicle expenses	0.15					
Sub-Total	0.58					
Total expenditure	1.69	1.67	1.67	1.70	1.71	1.71
Gross Surplus	0.50	1.35	1.44	1.59	1.64	1.64
Interest on Term Loan	0.30	0.27	0.21	0.15	0.09	0.03
PBT	0.20	1.08	1.23	1.44	1.55	1.61
No IT						
PAT	0.20	1.08	1.23	1.44	1.55	1.61
Repayment of Loan		0.60	0.60	0.60	0.60	0.60