

A Study of Entrepreneurial Venture of Dairy Products in Central Uttar Pradesh, India

Ehtesham Abbasi
King Abdul Aziz University
ehabbasi@gmail.com

Abstract

A potential entrepreneur needs insight and vision in terms of the viability of the proposed project concept. Most rational decisions, taken either by existing or aspiring entrepreneurs to make a business investment, are preceded by an investigation of the feasibility of the project.

In support of this, the functions of undertaking a feasibility study include the following:

- It provides the knowledge, conviction and specific operational insights into the viability of a project, in terms of market, technical, Financial and other perspectives.
- A feasibility study provides the basis for developing the concept into a business plan and subsequent start-up.
- It allows the product/service to be tested in a practical marketplace setting without major resource commitments.
- The feasibility study document acts as a reference for support agencies, grant aiding authorities, potential partners, business associates and lending institutions, as a basis for generating interest and commitment for the proposed business.

Key Words: Entrepreneurial Development, Dairy Products, Marketing Feasibility, Financial Viability, KK Milk Fresh Ltd.

JEL classification: M10.

1. Introduction

To start a business, we need insight and vision in terms of the viability of the proposed project concept. Most rational decisions, taken either by existing or aspiring entrepreneurs to make a business investment, are preceded by an investigation of the feasibility of the project.

In support of this, the functions of undertaking a feasibility study include the following:

- It provides the knowledge, conviction and specific operational insights into the viability of a project, in terms of market, financial, technical and other perspectives.
- A feasibility study provides the basis for developing the concept into a business plan and subsequent start-up.
- It allows the product/service to be tested in a practical marketplace setting without major resource commitments.

The core elements of feasibility studies include:

Market Analysis

Involving market analysis of market conditions which affect product, price, promotion, place (distribution) and packaging. It also examines market trends relative to past, present, and future supply and demand issues regarding the product/service, including a review of industry trends, target markets, competitors, and other industry players.

Technical Analysis

Incorporates a review of the product, manufacturing/supply process, plant location, size and layout. It also aims to determine the raw material and services supply, labor requirements, and increasingly important issues such as legislation, environmental controls, and other factors impacting on the production/supply aspect of the business.

Financial Analysis

With emphasis placed on the provision of financial statements, so that the project can be

evaluated in terms of several commercial profitability and the magnitude of finance required. It requires combining market and technical data and costing into various pro forma statements. The analyses of the feasibility of a project can be conducted at different levels of effort with respect to time, budget, and personnel, depending on the circumstances.

Prior to undertaking a feasibility study, the promoter should be aware of the needs of interested parties (development agencies, lending institutions, etc.), and therefore tailor the analysis to their particular requirements.

Objectives of Study

The present study is based on K.K. MILK FRESH Ltd. tries to achieve following objectives:

- To highlight the market potential for dairy product in U.P. India
- To ascertain the financial viability of K.K MILK FRESH
- To know the market feasibility of dairy in central U.P.

Scope of Study

Uttar Pradesh is the fastest growing state in India in terms of population. If the population of U.P. is taken alone it is the sixth largest country of the world. Income level of people are rising so as the rising demand for dairy products.

A few dairy companies like, Amul, Mother Dairy and Parag, etc. functions but they do not cater the demand of the people. So in this scenario there is an urgent need to open a new dairy company which fills the rising gap between demand and supply of the dairy products, but before initiating any project a thorough financial viability and market feasibility analysis should be done, so as to find their expected/future performance.

Research Methodology

In the present study, an attempt has been made to measure; evaluate the Feasibility of Dairy Product in Central U.P. The study is based on secondary data.

Type of Research Design

This study uses both analytical & descriptive research to describe measure, analyze the feasibility of Dairy Product in Central U.P.

Sources of Data Collection

To fulfill the information need of the study. The data is collected from primary as well as secondary sources.

Research Data Collection

The present study is based on primary as well as secondary data. The primary data has been collected after the visit made by researcher at the office of Gold Rush Capital Services Pvt. Ltd and SBI Capital Markets Ltd. to analyze the market feasibility demand analysis consumption pattern and SWOT analysis of dairy product being done. Financial viability of the project has been done through sensitivity and break even analysis.

The secondary data was collected on the basis of organizational file, internet, official records, newspapers, magazines, management books and website of the company, already done research work etc.

Executive Summary

K. K. Milk Fresh India Limited (KMF) is a closely held public limited company, incorporated on 20th January 2010 to carry on the business of manufacturing and processing of milk & milk products. The company is planning to set up a milk processing plant at village Kumbhi in Ramabai Nagar district of Uttar Pradesh.

The plant will have a capacity to process 8,00,000 liters'/day milk into different products like Mozzarella Cheese, Paneer, Desi Ghee, Table Butter, White Butter, De-mineralized Whey, Whole Milk Powder, Skimmed Milk Powder, Dairy Whitener and UHT Milk.

The installed capacity for various products will be as given in the following table.

Paneer	1521 Kg/Day
Mozzarella Cheese	93 30 Kg / Day
Dairy Whitener	5000 Kg / Day
Desi Ghee	25270 Kg / Day
Table Butter	1000 Kg/Day
White Butter	4000 Kg / Day
De -mineralized Whey	7842 Kg / Day
WMP	10000 Kg/Day
SMP	24349 Kg / Day
UHT Milk	
Double Toned Milk	41200 Kg/Day
Toned Milk	41200 Kg/Day
Skimmed Milk	20600 Kg / Day

Table 1. Product Wise Installed Capacities

Project Highlights

Location for processing is suitable in terms of availability of raw milk, low cost labour, transportation etc. The proposed site is on National Highway 2 and all essential amenities required to run the plant are easily accessible. Various development activities required for the execution of project have already been completed.

2. Market Feasibility

Marketing & Sale

With the advent of better technology and penetration of organized retail in the Indian markets, the consumer demand for ethnic as well as exotic product dairy offerings is on increase. Due to increased customer awareness to quality of products and receptiveness to new products forms, the consumption of processed milk products and packaged UHT milk has been increasing. The share of organized players in dairy industry is a meager of 15%.

Being a new entrant in this segment, KMF is planning to adopt the B2B (i.e. Business to Business) strategy and hence is looking forward to have tie-up with retail chains and processed food manufacturing companies for bulk supply of company's products. The company is in preliminary discussions with companies like Amul, Mark Foods, Krebs Biochemical & Industries Limited, Gits Food Products Pvt. Ltd. etc. for the sale of the products. Further, the company is in discussions with various restaurant chains including pizza chains.

Once the company establishes itself in the B2B segment and has built a brand, it will venture into selling its products directly to the end consumer through Business to Consumer (B2C) marketing.

Product	Target	Intended Use
Skimmed Milk Powder	Food processing industries	Food processing industries -Infant food formula, Confectionary
Whole Milk Powder	Canteen Stores Department, Traders	Tea / Coffee and liquid milk Reconstitution
Dairy Whitener	Food processing industries	Food processing industries, Bakery
Paneer	Traders and direct consumers/restaurants	Cooking
Mozzarella Cheese	Food processing industries, Fast food chains/restaurants	Pizza, Burger
Dairy Whey	Traders and end users viz, baby	As a Food supplement. Energy

	food formulators, food, dietary and snack food formulators	drinks/nutritional product industry, Baby food industry, Ice creams, Bakery products, Processed meat. Calf Milk replacer, Confectionary
Ghee	Biscuit and cookies producers/companies & direct customers	Cooking
Table Butter	Hotels / Institutional Sales, Sweet makers	Spreads
White Butter	Bread and biscuits, Restaurants	Flavoring/cooking/spreading agent
UHT Miik	Food malls/ Direct customer	Human Consumption

Table 2: Target Segments for Milk Products

3. Technical Analysis

Industry Scenario

As the world's largest producer of milk for almost a decade and half, India's contribution to world production has increased from 10% (FY'98, 72 Million Ton) to 16% (FY'11, 121 Million Ton). The country has witnessed a compounded annual growth rate of 4.1% in milk production during the period which is more than two times higher than the world average of 1.35% although much below. The contribution of Dairy Industry to the Gross Domestic Product of the country currently stands at 2.65% (almost 70% of the total contribution of livestock sector). Among agricultural commodities the contribution of milk to Gross National Product is more than principal agricultural crops like wheat and rice (Source: CII, Technopak Analysis- May 2010 & NDDB Annual Report 2011, NDDB Website).

Dairying has become an important secondary source of income for millions of rural families and has assumed an important role in providing employment and income-generating opportunities. Some 70 million rural households are engaged in milk production.

Milk Production in Uttar Pradesh

Uttar Pradesh is the largest producer of milk in the country contributing to as much as 18% of the country's production since 1980's. The production of milk in the state has increased at a compounded annual growth rate of 4.2% (2001-2011) higher than the country growth rate at 3.7%. Uttar Pradesh produces more milk than New Zealand, the world's largest exporter. Details of Milk Procurement by Daires/Chilling Centers Run in Private Sector in Uttar Pradesh as on 14th Jan, 2011.

Demand

Demand factors with changing income patterns and lifestyle expenditure incurred in rural and urban areas in Dairy products is seeing a rising trend as visible from the table 3.

With the advent of better technology and penetration of organized retail in the Indian markets, the dairy industry in India has been able to bring in the ethnic as well as exotic product offerings to the markets. Due to increased customer awareness to quality of products and receptiveness to new products forms the consumption of processed milk products and packaged UHT milk has been increasing.

	Rural		Urban	
	1987-88	2009-10	1987-88	2009-10
Cereals	41.1	29.1	26.6	22.4
Pulses and product	6.3	6.9	6.0	6.6
Milk and product	13.4	16.0	16.8	19.2
Egg, fish and meat	5.2	6.5	6.4	6.6

Vegetables	8.1	11.6	9.4	10.6
Sugar	4.5	4.5	4.3	3.7
Food total	100	100	100	100

Table 3. Item-wise Share of Expenditure to Total Food Expenditure

Source: National Sample Survey, 66th round

Consumption

Today, the Indian Dairy industry stands at a mammoth size of US\$ 70 billion (Source: CII Technopak Analysis). The CAGR of milk and milk products consumption in India for the 2005-2008 periods stood at 2.7% p.a. The consumption and the production patterns for the country however are very similar with almost 100% of milk produced being consumed domestically and sometimes dependence on imports for meeting the demand-supply deficit.

Consumption ('000 ton)	2007	2008	2009	2010	2011	2012
Butter	3360	3680	3910	4170	4325	4500
Nonfat Dry Milk (SMP)	270	310	355	390	390	480
Liquid Milk- Domestic Consumption				49140	53240	53900
Liquid Milk- Factory use Consumption				67855	68255	73100

Table 4. Consumption of Processed Milk Products

As projected under the proposed National Dairy Plan, the production of milk in the country is required to increase to 180 million ton by 2021-22 to meet the demand which will require a growth of more than 5% just to ensure zero dependence on imports.

As per a study done by National Dairy Research Institute and a corresponding Vision statement the demand for milk in India is expected to grow by 3-4% p.a. resulting in a demand of 230 million tonnes of milk approximately by 2035 suggesting an increase of 4 million tonnes per annum.

The estimates of milk supply, dairy demand and economic demand for the year 2035 as estimated by NDRI in its 6 Vision 2030' is as depicted below:

Product	2013	2014	2015	2016
Liquid Milk Consumption, '000 tonnes	54,342	57,341	59,715	62,239
Butter Consumption, '000 tonnes	4,862	5,194	5,545	5,911

Table 5. Forecasted Milk Demand 2013-2016

Import and export

Almost all the milk produced in the country is used for consumption in liquid or processed forms. Less than 0.05% of that produced is used for exports in form of various processed products. This is owing to various legislative restrictions coupled with high domestic demand. The major export destinations include United Arab Emirates, Bangladesh, Egypt, Kingdom of Saudi Arab, Nepal, Philippines, Morocco and Pakistan. (Source: APEDA Statistics)

Milk powders and baby food exports constituted around 50 percent of the total dairy exports in volume terms, followed by butter and other fats, casein, milk and cream and other processed dairy products.

Profit Margins

The PAT margin for the industry is in the range of 7%. The cost structure for the industry is detailed in the table below:

Particular	2009	2010	2011
Raw Material as % of Income	61%	62%	62%
Power & Fuel as % of Income	3%	3%	3%
Salary as % of Income	6%	6%	5%
Repair & Maintenance as % of Income	0.77%	0.72%	0.65%
Selling & Distribution as % of Income	7%	8%	8%
Other Expenses	10%	8%	8%
PBITDA Margin	12%	12%	13%
PAT Margin	6%	6%	7%

Table 6. Industry Cost Structure

Government policies

Dairy development policies are formulated by the government, both at centre (through NITI Ayog) and at state levels. Implementation is under the purview of the State Government since the Agriculture and Dairy products along with Animal husbandry are constitutionally States concern.

4. SWOT Analysis

Strengths:

- KMF has already tied up with Enterprise Emerging Market Fund B. V., a Singapore based PE investor for upfront equity investment of Rs. 61 Crore by Chapelco Holdings Limited, a wholly owned subsidiary of EEMF, in the project
- A term sheet has been executed while the Shareholding Agreement is expected to be executed shortly. The PE investment will form around 21% of the project cost.
- The promoters of KMF have experience in manufacturing and trading of dairy products. The company has appointed personnel with sufficient exposure in operation and maintenance of dairy projects.
- The project location has advantages like abundant availability of raw material (Milk) and boiler fuel (Rice husk) at low cost. In the radius of 100 KM of project site there is 12-15 Lakh litres of surplus milk, which is at present being transported to the dairies situated at Gwalior, Kosi, Aligarh and Bulandshahar, all at a distance of more than 200 KM Therefore the plant location is ideal in terms of procuring surplus milk from the vendors in the nearby area. This will save the transportation cost and will also improve the quality of milk.
- M/s Food & Beverage Engineers has been selected for Engineering, Procurement and commissioning of the plant on turnkey basis. FBE has experience in setting up of this kind of unit and has proven track record. The Clientele of FBE include Amul, Mother Dairy, Kwality Dairy among others. Technology and P&M provided by FBE will be sourced from reputed international and domestic suppliers.
- The unit will have installed capacity of 8,00,000 LPD, which will give it the benefits of the economies of scale.
- The project will be the only second dairy plant in India, after Amul to install a fully automated plant for manufacturing Paneer. This will enhance the quality and efficiency of the product and the manufacturing process significantly.
- The technology considered by the Company for manufacturing the mentioned products is widely used, latest and proven technology.
- Company has been allotted Import and Export License, Central Excise registration, UP VAT, Central Sales Tax registration, Ground water use approval, building plan approval

and is in process of receiving other approvals and clearances from the concerned government authorities.

- Promoters have already started the site leveling work after procuring the entire project land required and have infused Rs. 7.97 crore in the company as on 31st May, 2012.

Weaknesses:

- The company will procure 60% of its raw milk requirement from contractors who are currently supplying to other players like Bhole Baba group in Aligarh, Hardayal Milk Products Pvt. Ltd. etc. Since these contractors are near to the project site as compared to the plants they are currently supplying to, the transportation cost for the contractors would be minimized to a large extent. The company will also be giving them monetary incentives for supplying milk to KMF.
- In the retail segment, retail consumers have brand loyalty to old established brands and it is very hard to create a brand image in the market. The Company plans to initially target institutional segment only. It would venture into retail sales once the brand name is established in the market.
- Perish ability: Milk has a lower shelf life. In absence of chilling temperature i.e. 4°C, the quality of milk deteriorates. The Company is planning to have its own chillers at 6 locations which will ensure the milk storage at 4°C and the milk will be transported to the project plant in 3-4 hrs of time. At milk handling section, the raw milk supplied at a temperature > 4°C will be pasteurized by UHT technique to extend its shelf life.

Opportunities:

- Demand is expected to grow at a healthy rate primarily due to rise in consumption of fast food and westernized processed food items and a strong distribution network developed by major retail players. Dairy market is consequently growing at an annual growth rate of around 5 percent in volume terms.
- Organized players (both cooperatives and private) are presently handling only 15% of total milk production in the country, indicating that there is a wide scope for processing and manufacturing of milk products for domestic and export consumption.
- The Company can increase its product portfolio further to include value-added products like shrikhand, ice creams, khoa, flavored milk, dairy sweets etc. This will lead to a greater presence and flexibility in the market place.

Threats:

- The Indian dairy industry, following its de-licensing, has been attracting a large number of entrepreneurs. Their success in dairying is dependent on factors such as an efficient and economical procurement network, hygienic and cost-effective processing facilities. The company will have to face competition from the new capacities envisaged in the industry. Promoters have extensive business knowledge in selling dairy products and procuring raw milk. The company will also recruit professionals having good marketing and branding experience for establishing KMF's brand in the market.
- Lack of control over yield of FAT and SNF Company will be guiding Dairy farmers on modern animal husbandry practices, providing high protein content fodder to their animals etc. for better quality production of milk from milch animals.
- Governments in countries like New Zealand, Australia etc. provide huge subsidies to their dairy industries, leading to low production prices for their dairy products in the global market. To protect the Indian Dairy players, the government imposed high import duty on the imported dairy products. Following are the details of basic custom duty applicable on few products as per Tariff 2012-13 of Central Board of Excise and Custom Duty:
 - Skimmed Milk-60%
 - Whey Powder-30%, Butter, Ghee-40

5. Financial Viability

Project Cost Summary

Cost for implementation of the project has been estimated at around Rs., 286 crore. The cost estimates are based on the Project Appraisal report submitted by Perfect Solutions, TEV Report submitted by D&B India Limited, quotes received from the proposed EPC contractor and actual expenses incurred by the company. A broad break-up of the project cost estimates is given below:

Particulars	Amount (Rs. in Crore)
Land	2.21
Site Development	4.10
Building	22.72
Plant & Machinery	178.41
Misc Fixed Assets	13.60
Total Hard Cost	221.05
Prelim and Preoperative Expense	5.26
Contingencies	11.20
Margin Money for WC	17.39
Financing Charges	3.44
Interest during Construction	27.66
Total Soft Cost	64.95
Total Project Cost	286.00

Table 7. Summary of Project Cos

Particulars	Amount (Rs. in Crore)
Basic Cost	142.37
Excise Duty @ 12.36%	6.90
Import Duty @ 26.27%	22.73
CST @ 2%	1.12
Cost Inclusive of ED & CST	173.12
Insurance @ 1 %	1.73
P & F @ 2.5%o (Base cost)	3.56
Total Plant & Machinery Cost	178.41

Table 8. Plant and Machinery Cost

Miscellaneous Fixed Assets

Company, as well as the TEV consultant has estimated total expenditure of Rs 13.60 Crore on Miscellaneous Fixed Assets. This is 4.75% of total project cost. Summary of the same is as under:

Particulars	Amount (Rs. in Crore)
Electrical	3.70
Bore well & Water Storage	0.38
R&D Lab with Pilot Equipments	1.50
Collection Centre	4.21
Vehicles	3.02
Others	0.80
Total	13.60

Table 9. Miscellaneous Fixed Assets Cost

Contingencies

The company has estimated contingencies of Rs. 11.20 crore for the entire project. The amount has been computed at the rate of ~5% on total hard cost of the project. The company is in the process of executing EPC contract and placing orders for the entire machinery and has also commenced site development. As per the firm quote received from M/S FBE, proposed to be engaged as the LPC contractor, in case of any escalation in SS price, 50% of the increase is to be borne by the company. Hence contingency has been included as project cost to cater to any increase in cost of machinery or to meet any unforeseen expenses.

Pre-Operative Expenses

As per the company and TEV consultant's estimates, total pre-operative expenses for the project are expected to be around Rs. 5.26 crore, which is around 1.84% of the project cost. Details of the same are as below:

Particulars	Amount (Rs. in crore)
Salaries & Wages	0.36
Travelling & Conveyance	0.36
Postage, Telephone & Fax	0.05
Printing & Stationery	0.05
Misc. Administrative Expenses	1.20
Factory Start-up Expenses	0.60
Legal & Professional Charges	0.60
Total	5.26

Table 10. Pre-Operative Expenses

Interest during Construction & Finance Charges

The IDC cost has been estimated assuming an interest rate of 14.00% p.a. on Rupee Term Loans (RTL). The IDC of Rs. 27.66 crore has been calculated on the basis of implementation period (including trial runs) of 21 months for the financial closure (1st Oct, 2012).

The debt drawdown schedule has been made with a provision for 60% equity being brought upfront, with the balance being infused pro-rata by way of the debt. The financing charges have been estimated at Rs. 3.44 crore, which include upfront fees, arranger's fees and other financing charges.

Margin Money for Working capital

Provision of Rs. 17.39 crore has been made in the project cost for working capital margin during the first year of operations. Margin money is taken at 25% of net current assets. Assumptions for calculating work capital have been provided by the company and are as per the DPR prepared by D&B.

Item	Holding Period (Days)
Current Assets	
Raw Material- Milk	1
Work in progress	7
Finished Goods	
Mozeralla Cheese	2
Paneer	30
Chee	30
Table Butter	7
White Butter	30

Demineralized Whey Powder	30
Whole Milk Powder	30
Skimmed Milk Powder	30
Dairy Whitener	7
Tonned Milk	7
Double Tonned Milk	7
Skimmed Milk	30
Consumables	30
Rice Husk	15
Packaging Material	7
Advance to Suppliers of Raw Material & Stores and Spares	0.50% of Cost .
Sundry Receivables	30
Current Liabilities	
Sundry Creditors	2
Other Current Liabilities	30

Table 11. Assumptions for Calculating Working Capital

Phasing of Expenditures

The phasing of the project cost is based on the implementation schedule submitted by the company and as per the firm quote provided by the proposed EPC contractor. The estimated year wise % phasing of cost for the project is as follows.

Year Ending March 31	% age expenditure
2013	57.73
2014	30.60
2015	11.67

Table 12. Phasing of Expenditure

Means of finance

The estimated project cost is proposed to be funded through a mix of Term Debt and Shareholders' Equity in the ratio of 60:40 as given below.

Particulars	Amount (Rs. in Crore)	Percentage (%)
Equity	114.00	40.00%
Debt- RTL	172.00	60.00%
Total	286.00	100.00%

Table 13. Means of Financing

Equity

Entire equity of Rs. 114 crore for the project would be infused by the promoter group lead by Dr. Chand Narian Kuchroo and a Private Equity Investor Net worth of Dr. Kuchroo was Rs. 32 crore as on 31st March, 2012.

Share Holding Agreement for the investment will be executed shortly between KMF and Chapel co Holdings Limited, incorporated and existing under the laws of the Republic of Cyprus, a wholly owned subsidiary of EEMF.

EEMF has a fund size of USD 868 Million. It has an investment portfolio of USD 855 Million as on 31st Dec, 2011. The fund was incorporated as a limited liability company on Sep 8, 1998 under the laws of Curacao. The funds objective is to provide superior returns by investing in

equity and debt obligations in emerging markets. Delta Wealth Management, LLC, established on May 19, 2005 under the laws of Delaware acts as Investment Manager.

In view of the above, the management of the company has decided to bring equity amounting to Rs. 114 crores in the following manner.

Source	Amount (Rs. in Crore)
Investment by EEMF	61.00
Dr. C.N. Kuchroo led Promoter Group	
From Sale of Immovable Property	35.03
Withdrawal of Equity from Group Companies	10.00
Amount already invested in KMF as on 31 st May, 2012	7.97
Total	114.00

Table 14. Proposed Sources of Equity Infusion

Debt

K.K. Milk Fresh India Ltd. proposes to approach domestic banks and financial institutions for raising the requisite debt finance aggregating Rs. 172 crore by way of long-term rupee loans. The term loans are expected to be contracted for a door-to-door tenor of 8 years comprising a construction period (including trial runs) of 21 months (from financial closure), a repayment moratorium of 9 months from COD of the project and repayment schedule of 22 quarterly installments. Interest on Rupee Term Loan (RTL) is proposed at current effective rate 14.00% p.a. on the outstanding principal amount of the Rupee Debt.

Financial Progress

The promoters have already infused Rs. 7.97 crore till May 31, 2012, and the broad break-up of the same is as under:

Particular	Amount (Rs. in Lakh)
Use of Funds	226.04
Land	6037
Site Development	8.22
Misc Fixed Assets	120.67
Preliminary / Preoperative Expenses	7.75
Advances	365.98
Cash and Bank	7.97
Total	797.00
Means of Finance	
Paid-up Capital	189.50
Share Application Money	607.50
Total	797.00

Table 15. Financial Progress of the Project

Key Financial Projections

The plant is expected to commence full commercial operations from 1st July, 2014 and first full year of operations would be FY 2015-16. Financial analysis has been carried out for a base case and 20 years of project operation to ascertain the bank ability and financial attractiveness.

Sensitivity Analysis

A sensitivity analysis of the company's financial position has been carried to ascertain the robustness of its financials. Various scenarios for which the sensitivities was carried out and the results are as follows.

Scenario	Change	Average DSCR	Min. DSCR	IRR
Base Case		1.81	1.68	21.52%
Increase in Project Cost	5%	1.74	1.61	20.86%
Decrease in Sale Price	5%	1.24	1.09	16.13%
Increase in Raw Material Cost	5%	1.39	1.23	17.39%
Increase in Interest Rate	1%	1.75	1.60	21.52%
Decrease in Capacity Utilisation	5%	1.71	1.56	20.66%

Table 16. Sensitivity Analysis

Project financials are most sensitive to decrease in sales while increase in interest rates has minimal impact on DSCR. In view of the current growing demand for milk products, reduction in sales is not envisaged.

Breakeven Analysis

FY ending March, 31	2015	2016	2017	2018	2019	2020	2021
Net Sales	328	536	643	676	709	745	782
Fixed Cost	45	62	61	57	53	48	45
Variable Cost	267	437	524	550	578	607	637
1 Contribution	61	100	119	125	132	138	145
PV Ratio	19%	19%	19%	19%	19%	19%	19%
Fixed Cash Cost	34	48	47	47	39	35	32
Break Even Point (BEP)	244	333	329	305	285	258	241
BEP (% of Net Sales)	74%	62%	51%	45%	40%	35%	31%
Cash BEP	185	256	253	228	208	187	170
Cash BEP (% of Net Sales)	56%	48%	39%	34%	29%	25%	22%

Table 17. Projected Break Even Analysis

Hence the company is projected to breakeven at 74% of FY-2015's projected net sales of Rs. 328 crores. Margin of safety is projected to increase over the years as fixed cost (interest on term loan) will decrease.

6. Conclusions, Findings and Suggestions

Conclusions

The current demand scenario in Dairy Industry for both liquid milk and processed products necessitates an increase of almost 5% p.a. in the production levels in the country. The changing income and lifestyle patterns especially in urban centres and increasing sophistication and receptivity to new products among consumers signals significant increase in demand for packaged milk and processed products like SMP, WMP, Whey etc. in coming years. There is thus huge untapped potential for good quality processed and packaged dairy products in the country, the supply demand gap for which needs to be filled by a larger participation from private industry.

K. K. Milk Fresh India Limited (KMF) is setting up a milk processing plant at village Kumbhi in Ramabai Nagar district of Uttar Pradesh. The plant will have an aggregate capability to process 8,00,000 litres/day milk into different products like Mozzarella Cheese, Paneer, Desi Ghee, Table Butter, White Butter, De-mineralized Whey, Whole Milk Powder, Skimmed Milk Powder, Dairy Whitener and UHT Milk.

Findings

Various development activities required for the execution of project have already been completed. A summary of the same is as under:

- KMF has already tied up with Enterprise Emerging Market Fund B. V., a Singapore based PE investor for upfront equity investment of Rs. 61 Crore by Chapelco Holdings Limited, a wholly owned subsidiary of EEMF, in the project.
- A term sheet has been executed while the Shareholding Agreement is expected to be executed shortly. The PE investment will form around 21% of the project cost.
- The Techno-Economic Viability assessment of the project has already been carried out by Dun and Bradstreet Information Services India Pvt. Ltd.
- The company has identified the project management team comprising of professionals having extensive experience in procurement, production, technical and marketing aspects of dairy industry.
- The company has already bought the entire land requirement of 40,760 Sq.m for the proposed plant at a cost of Rs. 1.601 crore and has got it duly transferred in the name of KMF.
- Company has sent an application seeking permission from NHAI to develop permanent road connectivity from NH2. Currently, the land site of the proposed project is connected to NH2 through a temporary un-metalled road.
- Site development work has started and the boundary wall construction and levelling of the land is in progress. Front boundary wall and front gate have been constructed. Temporary site office sheds have also been constructed to supervise the activities.
- Company has applied for shifting four electrical poles at the project site. Site Plan and Building designs have been prepared by M/s CEMG Engineers and Consultants Pvt. Ltd.
- M/s R.R. Builders & Developers has been selected for civil construction. M/s Foods and Biotech Engineers (India) Pvt. Ltd, an ISO 9001:2000 certified company, has been selected as the EPC contractor.
- Company has been allotted Import and Export License, Central Excise registration, UP VAT, Central Sales Tax registration, Ground water use approval, building plan approval and is in process of receiving other approvals and clearances from the concerned government authorities.
- Promoters have already infused Rs. 7.97 crore in KMF upto May 31, 2012. Location for processing is suitable in terms of availability of raw milk, low cost labor, transportation etc. The proposed site is on National Highway 2 and all essential amenities required to running the plant are easily accessible.

KMF will adopt B2B (i.e. Business to Business) strategy for marketing and sale of its milk products and will enter into tie-ups with retail chains and processed food manufacturing companies for bulk supply. The promoters have vast operational experience in the industry and have strong distribution networks.

The total project cost has been estimated at Rs. 286 crore, which is proposed to be funded with debt of Rs. 172 crore and equity of Rs. 114 crore i.e. at a debt-equity ratio of 60:40. The debt requirement of the Project is proposed to be financed through long term Rupee Term Loans (RTL) from banks & financial institutions. The company is raising private equity of Rs. 61 crore from Enterprise Emerging Markets Fund B.V. SBICAP has assessed the financial viability of the project as envisaged by the company based on the report prepared by D&B India, data provided by the company, discussions with the promoters and other market information as also through sensitivity analysis under the various scenarios.

On the basis of the assumptions underlying the cost of production and profitability estimates, the projected cash flows result in an average DSCR of 1.81 and the minimum DSCR of 1.68,

which is considered reasonable for this type of project. Estimated project IRR at 21.52% is also considered satisfactory. Based on the appraisal exercise, it may be concluded that:

- Considering KMF's projected performance, the company is expected to meet its debt service obligations towards the project;
- The overall financial, liquidity and profitability parameters of the project are considered reasonable and satisfactory.

In view of the analysis presented in this paper - subject to the risk factors, weaknesses and threats enumerated in the SWOT analysis and the impact of various scenarios as envisaged under the sensitivity analysis - the proposed 8 lakh litre/day milk processing plant of KMF at village Kumbhi, Uttar Pradesh is viewed as market wise feasible and financially viable.

Suggestions:

- As the KK Fresh Milk is in initial stage the procurement of efficient marketing staff is needed as competition is high in the operational area for the company.
- Adulteration in the milk and milk products in the operational area of KK fresh milk is already there, so there should be a strict check on the quality of the products, it will ultimately enhance the goodwill of the company.
- Working capital management should be prompt, as most of the companies tend to fail on account of mismanagement of Working capital requirement.
- Community welfare programs may be organized by KK Fresh Milk, so as to make strong bonding with the local people.
- KK Fresh Milk may play a big role in making Uttar Pradesh a leading producer of milk and milk products by supporting farmers and livestock.

References

- AGRICULTURAL MARKETING RESOURCE CENTER, 2011. Dairy Sheep. [online] Available at:http://www.agmrc.org/commoditiesproducts/livestock/laiib/dairy_sheep.cfm [Accessed September 2011].
- AGRICULTURAL PRICES, 2010. [online] Available at <<http://usda.mannlib.cornell.edu/MannUsda/view>>
- AMERICAN DAIRY GOAT ASSOCIATION, 2010. DHIR Breed Averages. [online] Available at: <http://adga.org/index.php?option=com_content&view=article&id=325:arc09breedavg&catid=46:production-testing&Itemid=200> (Accessed September 2010).
- ANIMAL HUSBANDRY AND DAIRYING -12th Five Year Plan, 2005. [online] Available at: <<http://www.ers.usda.gov/Data/CostsAndReturns./TestPick.htm>> (Accessed September 2010)
- ARRINGTON, KENDRA, H. DENNIS, JENNIFER & MAZZOCCO, MICHAEL. 2010. An Evaluation of Consumer Segments for Farmers' Market Consumers in Indiana and Illinois. Paper presented at the 2010 WERA-72 Agribusiness Research Emphasizing Competitiveness and Profitability Meeting.15-22.
- POPULATION, [online] Available at:<http://tennessee.gov/tacir/PDF_FILES/Other_Issues/Population2010.df> (Accessed September 2011)
- BECKER, K.M, PARSONS, R.L., KOLODINSKY, J. &MATIRU, G.N. 2007. A Cost and

- Returns Evaluation of Alternative Dairy Products to Determine Capital Investment and Operational Feasibility of a Small-Scale Dairy Processing Facility. *Journal of Dairy Science*, 90(5), 2506-2516.
- BOEHM, W. T. 1975. The Household Demand for Major Dairy Products in the Southern Region. *Southern Journal of Agricultural Economics* 7(2): 187-96
- NATIONAL DAIRY DEVELOPMENT BOARD, 2011. Annual report .2011. India: National Dairy Development Board.
- DEPARTMENT OF AGRICULTURE, 2008. National Agricultural Statistics Service 2008. Annual report 2008, India: Department of Agriculture.
- DEPARTMENT OF AGRICULTURE, National Agricultural Statistics Service 2007. 2007 Census of Agriculture, [online] Available at: <http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Tennessee/cp99047.pdf> (Accessed September 2010).
- L.K. GLASER & THOMPSON, G.D. 2000. Demand for Organic and Conventional Beverage Milk. Paper presented at the Western Agricultural Economics Association Annual Meeting, Vancouver, Canada.
- LIEBRAND, CAROLYN. 2010. Dairy co-op survey reveals financial performance trends. *Rural Cooperatives*.1.1-6
- MCKAY, G.L., AND C. LARSEN. 1922. Principles and Practice of Butter-Making. New York John Wiley & Sons, Inc. 48-68.
- MIDDLETON, B. AND M. MURRAY. 2009. Population Projections for the State of Tennessee, The University of Tennessee Center for Business and Economic Research. 2010-2030.
- MILK PRODUCTION DEPARTMENT. Available at www.dairydevelopment.up.nic.in, Uttar Pradesh.
- MINISTRY OF FOOD PROCESSING INDUSTRY OF INDIA. Available at www.mofpi.nic.in.
- NATIONAL DAIRY RESEARCH INSTITUTE, 2011. Vision 2030 report, India: National Dairy Research Institute.
- RESEARCH REPORT 219. Available at: <<http://www.rurdev.usda.gov/rbs/pub/RR219.pdf>> (Accessed September 2010).
- ROBINSON, M. 2008, Hope Small-Scale Food Processing Facility: Feasibility Analysis. Eraser Basin Council. 12-25.
- USDA, 2010. Global Agricultural Information Network, India Dairy Annual Report, 2010, USA, USDA.