

DETAILED PROJECT REPORT

KARNAL DAIRY CLUSTER

Submitted to,

**Department of Industries and Commerce
Government of Haryana**

And

Development Commissioner (MSME)

Ministry of MSME, Government of India

(For assistance under MSE-CDP scheme)

**Report No: 2017-Delhi-0237
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***Submitted by,*
Karnal Dairy CFC Private Limited (SPV)**

***Prepared by,*
Ernst & Young LLP (EY)
Under the project: MSME Ecosystem
Transformation in Haryana**

6th July 2017

Director
Department of Industries & Commerce,
Government of Haryana
1st Floor, 30 Bays Building,
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Dear Sir/Madam,

As part of our engagement for providing consulting services for 'MSME Ecosystem Transformation in the State of Haryana', we hereby submit the Detailed Project Report (DPR) for setting up of Common Facility Centre (CFC) at Karnal Dairy Cluster for your kind perusal. The deliverable has been prepared in accordance with our engagement agreement with Directorate of Industries, Govt. of Haryana dated 03 January 2017, and our procedures were limited to those described in that agreement.

This Detailed Project Report is based on studies of and discussions with:

- ▶ Directorate of Industries, Govt. of Haryana
- ▶ MSME-DI, Karnal
- ▶ Members of Karnal Dairy CFC Pvt. Ltd.
- ▶ Representatives of SKILLTech Consultancy Pvt. Ltd, Karnal
- ▶ Dairy units located in Karnal
- ▶ Industry experts
- ▶ Secondary research

Our work has been limited in scope and time and we stress that more detailed procedures may reveal other issues not captured here. The procedures summarized in our Draft Detailed Project Report do not constitute an audit, a review or other form of assurance in accordance with any generally accepted auditing, review or other assurance standards, and accordingly we do not express any form of assurance. This Detailed Project Report is intended solely for the information and use of the Office of Director Industries-Haryana or the Office of Development Commissioner, Ministry of MSME and is not intended to be used by anyone other than specified party.

We appreciate the cooperation and assistance provided to us during the preparation of this report. If you have any questions, please contact the undersigned.

Sincerely,



Amar Shankar, Partner - Advisory Services

Disclaimer

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Abbreviations

AoA	Article of Association
BEP	Break Even Point
B2B	Business to Business
C.U.	Capacity Utilization
CAGR	Compound Annual Growth Rate
CDCC	Cluster Development Co-ordination Committee
CE	Capital Employed
CEC	Central Executive Committee
CEO	Chief Executive Officer
CFC	Common Facility Centre
CGTMSE	Credit Guarantee Fund Trust for Micro and Small Enterprises
CIP	Cleaning in place
CLU	Change of Land Use
CPCB	Central Pollution Control Board
CSSRI	Central Soil Salinity Research Institute
DC-MSME	Development Commissioner, Ministry Of MSME
DIC	District Industries Centre
DPR	Detailed Project Report
DSCR	Debt-Service Coverage Ratio
EPP	Enterprise Promotion Policy
FAO	Food and Agriculture Organization of the United Nations
FMCG	Fast-Moving Consumer Goods
FSSAI	Food Safety and Standards Authority of India
FY	Financial Year
GM	General Manager
GoH	Government Of Haryana
GoI	Government Of India
HCCI	Haryana Chamber of Commerce & Industry
HDDCFL	Haryana Dairy Development Cooperative Federation Limited
HPCB	Haryana State Pollution Control Board
HSIIDC	Haryana State Industrial & Infrastructure Development Corporation Limited
HUDA	Haryana Urban Development Authority
IBEF	India Brand Equity Foundation

IDA	Indian Dairy Association
INR	India Rupee
IPR	Intellectual Property Rights
IRR	Internal Rate Of Return
KFPCL	Karnal Food Pack Cluster Limited
MNC	Multinational Corporation
MnTPA	Million Tons Per Annum
MoA	Memorandum Of Association
MSE-CDP	Micro & Small Enterprises - Cluster Development Programme
MSME-DI	Micro, Small & Medium Enterprises-Development Institute
NCR	National Capital Region
NDDB	National Dairy Development Board
NDP	National Dairy Plan
NDRI	National Dairy Research Institute
NIFTEM	National Institute Of Food Technology Entrepreneurship And Management
NPV	Net Present Value
NSIC	National Small Industries Corporation
PAT	Profit After Tax
PMC	Project Management Committee
PNB	Punjab National Bank
ROCE	Return On Capital Employed
SIDBI	Small Industries Development Bank Of India
SL	Straight Line
SLPSC	State Level Project Steering Committee
SMP	Skimmed Milk Powder
SNF	Solids-not-fat
SPV	Special Purpose Vehicle
SWOT	Strength Weakness Opportunity Threat
UAM	Udyog Aadhaar Memorandum
UHT	Ultra-High Temperature
UK	United Kingdom
USA	United States Of America
USD	United States Dollar
WC	Working Capital
WDV	Written Down Value

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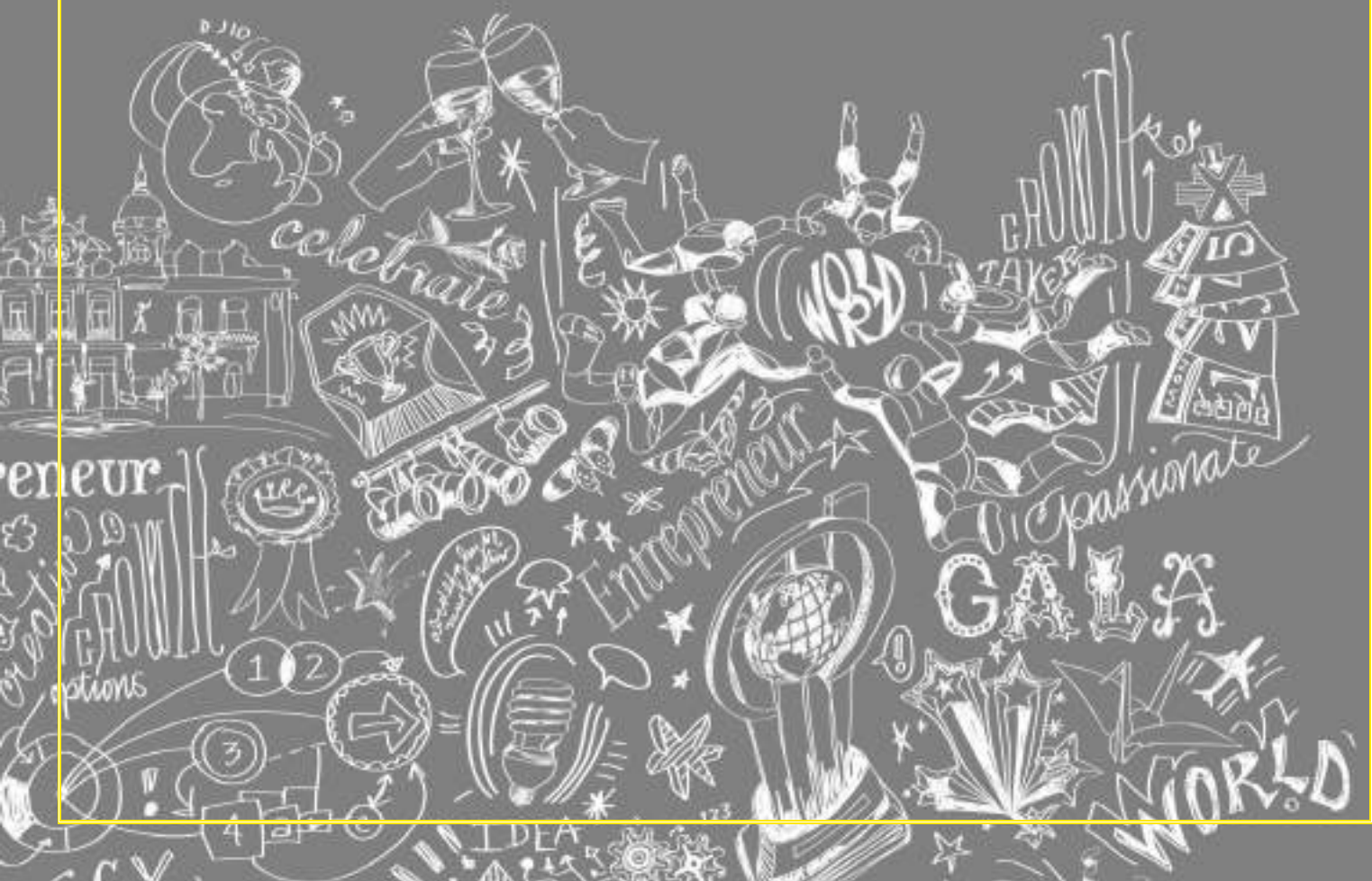
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Executive Summary



Executive summary

The Government of Haryana through the Department of Industries and Commerce is keen to transform the MSME sector of the state and put it on a growth trajectory. Several Incentives have been offered under the state's ambitious 'Enterprise Promotion Policy (EPP) 2015' to give an impetus to growth of the MSME sector. The Department of Industries and Commerce is working towards strengthening the technology infrastructure of various MSME clusters across the state to enhance productivity and competitiveness of the MSME units. This is being done by leveraging funding under the Micro and Small Enterprises Cluster Development Program (MSE-CDP) scheme of Ministry of MSME (led by the office of DCMSME) along with grants available under EPP 2015.

In this context, this Detailed Project Report (DPR) has been prepared to seek grant-in-aid assistance under the MSE-CDP to set up a state-of-the art Common Facility Centre (CFC) in Dairy cluster at Karnal District, Haryana.

About the Karnal Dairy Cluster

Post white revolution, Indian dairy industry has shown a constant growth in milk production as well as in per capita milk availability. Milk production has increased from 51.4 million MT in 1990 to 155.5 million MT in 2015-16. The per capita availability of milk in India has increased from 176 grams per day in 1990-91 to 337 grams per day by 2015-16. In 2010, the government and the National Dairy Development Board (NDDB) have framed a National Dairy Plan (NDP) to double India's milk production by 2020. Haryana has a thriving dairy industry with presence of large number of units involved in processing and manufacturing of various dairy products primarily for domestic consumption.

Karnal is a leading district in terms of dairy processing with more than 250 micro and small dairy processing units. The Karnal dairy cluster provides employment to over 4200 persons. The cluster units have a collective turnover of INR 650.00 crore per annum. Units of Karnal dairy cluster are involved in manufacturing of butter, paneer, cream, ghee and ice cream etc. However, most of the units are using obsolete technologies leading to production inefficiencies, obsolete packaging and environmental degradation.

The ever increasing milk production from the district led to emergence of a large number of dairy processing units. Units of Karnal dairy cluster have been in existence for more than 50 years. Over 90% of the units in the cluster belong to micro category. Presence of National Dairy Research Institute (NDRI) at Karnal boosted the development of dairy industry in the region. Presently, the cluster units are supplying their produce to local confectionary stores, retail stores and eateries/restaurants located on National Highway 1. Lack of quality, high amount of whey wastage, poor packaging and low production capacity are key challenges of the units. Due to lack of capital these units have not been able to deploy advanced machineries to address these challenge.

In addition, disposal of whey (the liquid remaining after milk has been curdled and strained, primality a by-product of manufacture of cheese/*paneer*) and dairy wastewater is another key challenge to the dairy cluster. Whey is the most polluting effluent by its biochemical composition rich in organic matter (lactose, protein, phosphorus, nitrates, and nitrogen) and is 60 to 80 times more polluting than domestic sewage. Micro dairies of Karnal do not have a facility to process dairy waste including whey and this is therefore released into sewage. The Governments at centre and state levels have imposed very strict rules and regulations for the effluent discharge to protect the environment. Hence it is important for units to carry out whey processing using modern machines. This will not only protect the environment but will also result in production of whey powder which would be used for multiple purposes by dairies as well as pharma units of Karnal. Such a facility at common level will be major boon for the district.

Diagnostic Study and Interventions

The diagnostic study was undertaken by the cluster members during July to September 2016 to map the existing business processes, identify the gaps and understand the requirements of the dairy cluster. The diagnostic study report (DSR) was compiled by the cluster SPV in co-ordination and with inputs from Skill Tech Consultancy, DIC, Karnal; MSME-DI, Karnal; NDRI & Oriental Bank of Commerce. Cluster members have actively participated during the need assessment process and suggested the remedial measures to prepare an action plan. Diagnostic study revealed that use of obsolete technologies has led to poor quality of the products, receding market share and environmental degradation. Packaging of dairy products is another area of concern leading to reduced shelf life. Unavailability of whey processing facility has compelled micro units to discharge high quantity of whey in sewerage, resulting in environment pollution.

DSR for Dairy cluster was presented to the State Level Project Steering Committee (SLPSC) on 21st October 2016 and was subsequently approved. The SPV was granted permission to take up the soft interventions as per action plan and was granted permission to go ahead with preparation of Detailed Project Report (DPR) for the cluster.

Proposed Common Facility Centre

The proposed CFC will comprise of the following facilities:

- i. Whey drying facility
- ii. Cream pasteurization/UHT bottle packaging facility
- iii. Butter Chippet Packaging facility
- iv. Testing facilities

The proposed common facility centre will enable the cluster firms to address their key challenges and expand their market. There is no similar facility available in the district to cater to the needs of cluster micro enterprises. The proposed common facilities will be utilized by the SPV members by paying

user fee. Non-members units in and outside the cluster will also be eligible to avail the services of common facilities by paying user fee to CFC as decided by SPV Board of Directors. The facility will provide a much needed infrastructural push to these units and will enable them to become more competitive.

Special Purpose Vehicle for Project Implementation

The cluster units came together to form a Special Purpose Vehicle (SPV) by the name and style of 'Karnal Dairy CFC Pvt Ltd' to meet the eligibility criteria as per MSE-CDP guidelines. The SPV has been registered as a private limited company under section 7 of the Companies Act, 2013 and rule 8 of the Companies (Incorporation) Rules, 2014. The SPV was incorporated in 2016 and includes about 25 members, subscribing to the necessary equity base of the company. The proposed CFC will be realised on public-private partnership basis by availing support from Government of Haryana (under EPP 2015), Government of India (under MSE-CDP scheme of DCMSME) and SPV's own contribution.

The SPV members have taken a lot of initiatives in a cooperative manner. They also have collectively undertaken soft intervention activities to understand technological advancement requirement of cluster dairy units. The activities included exposure visit to cluster development initiatives in other clusters, participation in trade fairs, UAM registration and awareness programs on new technology in dairy industry, IPRs and packaging of products etc. These programs were conducted in collaboration with DIC, MSME-DI and BDS providers such as National Dairy Research Institute (NDRI) and Ernst & Young LLP.

Project Parameters, Viability and Sustainability

The Karnal Dairy CFC Private Limited with support from DCMSME (under MSE-CDP) and Department of Industries and Commerce (under EPP 2015) is willing to set up a Centre of Excellence– a Common Facility Centre having state-of-the-art facilities to undertake job work for cluster dairy units with a total project cost of **INR 19.47 crores**. The cost of the project and proposed means of finances is tabulated below:

Project Cost

S. No.	Particulars	Total Project Cost (Rs. Lakhs)
1	Land	
	a. Land cost	358.15
	b. Land Development	5.00
2	Building & Other Civil Works	200.36
3	Plants & Machinery	
	a. Indigenous	807.18
	b. Imports	88.97
	c. Secondary Machines	328.95
	d. Electrification expenses (0.5% of P&M cost)	6.13
4	Miscellaneous fixed assets (fixture, furniture, firefighting equipment, first aid equipment, backup power supply, etc.)	10.00

5	Preliminary Expenses (DSR, DPR, legal & administrative expenses, registration, civil engineering drawings with estimates & tender forms, telephone, stationery, etc.)	20.00
6	Pre-Operative Expenses (electricity connection, establishment cost, overheads during construction period including salaries, machine testing cost etc.)	40.80
7	Contingency	
	a. Building @ 2%	4.01
	b. Plant & Machinery @ 5%	61.56
8	Margin money for working capital (Working capital required @ 80% C.U.)	16.32
	Total	1947.43

The total project cost is estimated to be Rs. 1947.43 lakh. The total contribution of SPV members will amount to Rs. 3.73 crores. Support from MSE-CDP of the DC-MSME is envisaged for Rs. 10.50 crores and from the government of Haryana is Rs. 5.23 crores. As indicated assistance to the project from the Govt. of India is envisaged to the tune of 53.91 per cent of the project cost, SPV contribution is to the tune of 19.19 per cent of the project cost and 26.89 per cent of project cost shall be contributed of GoH.

Means of finance

S. No.	Source of finance	Project cost up to INR 1500.00 lacs		Project cost over INR 1500.00 lacs		Total Amount (INR in lacs)
		Percentage Contribution	Amount (INR in lacs)	Percentage Contribution	Amount (INR in lacs)	
1	Grant-in-aid under MSE-CDP (Govt. of India)	70	1050	0	0	1050.00
2	Grant-in-aid (Govt. of Haryana)	20	300	50	223.72	523.72
3	Contribution of SPV	10	150	50	223.72	373.72
	Total	100	1500	100	447.43	1947.43

The viability and sustainability of the project is evident from the project economics as well as the co-operative spirit and profile of the SPV. Some indicators of the project's viability are as follows:

Project's financial indicators

S. No.	Particulars	Estimates
1	BEP (cash BEP at operating capacity of 80%)	58.4%
2	Av. ROCE (PAT/CE) without Grant	14.03% (project unviable)
3	Av. ROCE (PAT/CE) with Grant	30.44%
4	Internal Rate of Return (IRR)	40.17%

5	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoI and GoH	NPV is positive and high (Rs.1469.14 lakh) at a conservative project life of 10 years
6	Payback period	3 Years with Grant-in-aid assistance from GoI & GoH
7	DSCR	Not Applicable (no term loan to be availed by the SPV)

As evident from the financials above, with viability gap funding under the MSE-CDP of GoI and under EPP of GoH, the project is highly viable and sustainable. The project is expected to generate surplus from the first year of operation. Risk and sensitivity analysis considering a decline in user charge/capacity utilization also validates the project sustainability.

Project Implementation

Project implementation is envisaged to involve a time-frame of about 12 months upon receipt of final approval of grant-in-aid assistance from the Government of India under MSE-CDP. The project will be implemented by the SPV in close association with DIC, Karnal and MSME-DI Karnal. Cluster Development Co-ordination Committee (CDCC) under the chairmanship of Director of Industries, Government of Haryana shall supervise cluster development projects in Haryana.

In addition to CDCC, a Project Management Committee (PMC) comprising the GM, DIC, Karnal; representatives of SPV; Oriental Bank of Commerce; NDRI and EY experts shall be formed to oversee effective monitoring and implementation on regular basis. The project will be executed by SPV, while PMC will report the progress of implementation to the CDCC, SLPSC and DC-MSME.

The growth potential of cluster is also high. There is an increasing demand of processed dairy products across the country due to increasing income, changing food preferences and growth in retail segment of dairy products. Increased consumption of packaged dairy products in urban areas has also fuelled the demand of processed dairy products. In addition, Karnal has adequate availability of good quality fresh milk at economic prices through milk collection centres. Availability of required quantity of milk along with increasing market demand of dairy products clearly indicate the potential of cluster's growth and need of common facility at Karnal dairy cluster. Strategic location of Karnal (both geographically & industrially) is another favourable strengths of the Karnal dairy cluster. It is located 130 km from Delhi, 125 km from Chandigarh and is well connected with states of northern India. If supported, these units have potential to export dairy products due to less production cost, better storage facilities and quality of products.

Against this backdrop, the proposed CFC shall provide improved dairy processing and packaging facilities to micro and small units of the cluster. This will enable them to improve product quality, shelf life and increase their production capacity. These units will also be able to garner bulk orders

from hospitality and pharma industry. This facility will also give incentive to micro units for whey drying and consequent environment protection. This facility will allow these units to store the whey using chiller and getting it processed at CFC. Containing pollution by the way of processing whey is another major benefit of this facility. The proposed facility will be open to all cluster firms to get job work done by paying user charges. The facility will provide a major infrastructural push to the units. Last but not the least, the CFC will enhance the co-operation and joint action among cluster stakeholders to improve their competitiveness to meet the demands of domestic and international markets.

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1. Introduction

1.1 Overview of the Cluster

India is largest milk producing country in the world with production of 155 million tonnes of milk during 2015-16. The per capita availability of milk in India has increased from 176 grams per day in 1990-91 to 337 grams per day by 2015-16.¹ The country's share in world milk production stands at 18.5 per cent². The country also has huge demand of milk and milk products, leading to consumption of almost all of its milk production. In 2010, the government and the National Dairy Development Board (NDDB) had framed a National Dairy Plan (NDP) to double India's milk production by 2020.

Dairy industry is highly fragmented industry due to scattered production of milk and local requirement of milk is being met through local supplies. Focus of dairy development has been to decentralise the production and centralise the processing and marketing. In order to counter this strategy, it is imperative to build economy of scale at all levels of business and develop a critical mass. Development of dairy cluster is one of such initiative to create a robust milk supply chain and make a fair profit across all the levels.

Haryana has a thriving dairy industry with presence of large number of units involved in processing and manufacturing of various dairy products, primarily for domestic consumption. Karnal is a leading district in terms of dairy processing industry with a presence of over 250 micro and small dairy processing units. The dairy units have a collective turnover of INR 650.00 crore per annum and provide employment to over 4200 persons. National Dairy Research Institute (NDRI) at Karnal was



another important factor which boosted the development of dairy industry in the region. With increased milk production in the region, dairy processing units also came into existence in Karnal. These units are involved in dairy processing for over 50 years. Over 90% of these units in the cluster belong to micro category. Many dairy units of the cluster are associated with Indian Dairy Association (North zone). The association has come forward to address the needs of Karnal Dairy Cluster and supported its initiatives. Dairy units of Karnal dairy cluster came together to form Special Purpose Vehicle (SPV) in the name of "**Karnal Dairy CFC Private Limited**" during 2016 to establish a CFC under MSE-CDP guidelines.





¹ NDDB: <http://nddb.coop/information/stats/milkprodindia>

² Annual Report 2014-15, National Dairy Development Board

Units of Karnal dairy cluster are involved in manufacturing of dairy products like butter, ghee, paneer and ice cream etc. using traditional methods as mentioned in table 1.

Table 1: Products of Dairy Cluster, Karnal

Dairy products	Usage
	<p>Liquid milk is the most consumed, processed and marketed dairy product. Liquid milk includes products such as pasteurized milk, skimmed milk, standardized milk, ultra-high-temperature (UHT) milk and fortified milk.</p>
	<p>Fermented milk is commonly used to make other milk products. They are obtained from the fermentation of milk using suitable microorganisms to reach a desired level of acidity. Fermented products include yoghurt and dahi.</p>
	<p>Cheese is produced through the coagulation of milk protein (casein), which is separated from the milk's whey. Varieties of cheese are produced, many of them being characteristic to a particular region.</p>
	<p>Butter and ghee are fatty milk products. Butter is produced by churning milk or cream; in many developing countries, traditional butter is obtained by churning sour whole milk. Ghee is obtained by removing the water from butter and is especially popular in this region. Ghee has a very long shelf-life of up to two years.</p>

	<p>Condensed milk is obtained from the partial removal of water from whole or skimmed milk. Processing includes heat-treatment and concentration. Condensed milk can be sweetened or unsweetened, but most is sweetened.</p>
	<p>Khoa is a milk food widely used in Indian sweets, made of either dried whole milk or milk thickened by heating in an open iron pan.</p>
	<p>Dry milk or milk powder is obtained from the dehydration of milk and is usually in the form of powder or granules. This is commonly known as Skimmed Milk Powder (SMP).</p>
	<p>Cream is the part of milk that is comparatively rich in milk fat; it is extracted by skimming or centrifuging the milk. Cream products include prepared creams, pre-packaged liquid cream, and whipped cream.</p>
	<p>Ice cream is a frozen dessert usually made from dairy products, such as milk and cream and often combined with fruits or other ingredients and flavour.</p>

On one hand, Karnal has presence of medium and large units like M/s Bharti Dairy, M/s Goodrich Dairy, M/s Modern Dairy, M/s Karnal Milk Food etc. with advanced processing facilities and good distribution network across the country, while on the other hand there are a large number of micro

& small units who have not been able to progress due to lack of capital to invest in advance technologies. These dairy units are willing to adopt new technologies to upgrade product quality and packaging. These units are constantly pursuing activities to understand and adopt the technology used in dairy industry. They have conducted exposure visit to Amul, attended seminars and trainings etc.

Dairy industry have been continuously improving their products to suit the customer's changing consumption pattern and preference like packaging, hygiene, increased shelf life etc. The

units of Karnal have not been able to meet the customer's requirements due to lack of technological capacities. Presently, the cluster is only catering to the local demand of dairy products. Cluster is constantly making efforts to capture new markets in order to increase its market share. The cluster



is aiming eateries/restaurants located on NH-1, which create huge demand of dairy products in the region. These eateries requires bulk quantity of butter chiplets and milk cream for daily consumption which is presently supplied by bigger players like Amul, Mother dairy, etc. Small dairy units are unable to offer these products at competitive price with better shelf life.



1.2 About the district

Karnal is one of the most industrialized and historical districts of Haryana. It is famously known as a city of 'Daanveer Karna', as per the ancient Indian epic Mahabharata. Karnal district is known as the '*Rice bowl of India*' due of production of huge quantities of for production of rice. It is also famous for its dairy industry and for presence of premier research institutions such as National Dairy Research Institute (NDRI), Central Soil Salinity Research Institute (CSSRI), Wheat Research Directorate, National Bureau of Animal Genetics Resources, Sugarcane Breeding Institute etc.



Figure 1: District map of Haryana

Karnal district is prominently located on the Sher Shah Suri Marg (G.T.Road), and Delhi Ambala rail line which connects Karnal with all important places in the country. It is centrally located between Delhi and Chandigarh at a distance of about 125 kms from each. Karnal district is strategically located and connects with five different states in proximity, this has fuelled the growth of district by enabling industries to tap market of 5 states. Karnal district lies on the western bank of river Yamuna and forms eastern boundary of the district. The river Yamuna separates Haryana from Uttar Pradesh. The Karnal district is surrounded by Kurukshetra district on its north-west, Jind & Kaithal district on its west, Panipat district on its south and Uttar Pradesh on east (figure 1 and 2).



Figure 2: Karnal map

1.3 Industrial scenario of Karnal

By late sixties, this region had started feeling the impulses of development. Regions adjacent to GT road (NH-1) recorded considerable economic growth, especially due to industrial development in areas around Delhi. The onset of green revolution, progress in dairy farming, and expansion of agro-based & agriculture oriented industries (particularly rice mills in large numbers) provided an impetus to the growth of the region. Subsequently, the region witnessed a transition from agriculture to industrialization. The Haryana government also undertook several initiatives to promote industrial development in the region. The state ensured creation of massive infrastructure in terms of complete electrification, provision of road transport, expansion of administrative, educational and health facilities in small towns, and establishment of many new industrial townships and urban estates. Presence of NDRI in Karnal coupled with enabling policies of the government led to establishment of several milk processing and dairy plants in the region. At present, Karnal has become the major industrial hub with presence of a large number of industries across various segments such as and several industrial sectors such as dairy, food processing, rice milling, pharma, packaging, agriculture implements and so on.

1.4 Geographical Traits

The Karnal district lies between 29°09'50" and 29°50' North latitude and 76°31' 15" and 77°12'45" East longitude. The topography of Karnal district is almost plain and well irrigated through tube wells and canals. It has an elevation of 235 to 252 meters (748 feet). Irrigated area is about 205627 hectare, while the gross irrigated area is 388917 hectare. Percentage of the gross irrigated area to total cropped area is 98.72 % while the cropped area is 387111 hectare.



River Yamuna forms eastern boundary of the district and flows from north to south. The district is a part of the Ganga-Sindhu (Indo-Gangetic) plains and has a well spread network of western Yamuna canal. Its geographical area has been divided in to three agro climatic regions, Khadar, Bhangar and Nardak belt. Khadar starts from Indri-Karnal road one mile away from Karnal covering the area in between Yamuna River and NH-1 up to Patti-Kalyana village. Bhangar area starts from west of Khadar area covering Gharaunda, development block. The nardak area lies in Nissing, Nilokheri and Assandh development block.

1.5 Demographic Trends and Economic Structure

According to the 2011 census, Karnal district had a population of 1,505,324 (of which male and female were 797,712 and 707,612 respectively), making it the 5th largest district of Haryana in terms of population³. The district has a population density of about 600 inhabitants per square km. Karnal has a sex ratio of 887 females for every 1000 males, and a literacy rate of about 75%. Overall penetration of higher education in Karnal is lower than the state average.

The percentage of Cultivators to total Workers in 2011 in the district was about 22% whereas during 2001 it was 27%⁴. This infers that people have moved away from farming due to lesser profits. However, the district's economy is still predominantly agriculture based owing to the existence of good irrigation system across the district. Industrial activities have started increasing in the district with due to pro-business environment in the state. This had led to generation of employment in secondary and tertiary sectors.

The existing area under industrial use is approximately 102 hectare including the major industrial estate of HSIIDC in Sector 3 of Karnal. Keeping in view the location, available infrastructure, topography and drainage, an industrial area of 466 hectare has been allocated by Government of Haryana in sectors 1, 2, 37, 40 and 43-A of Karnal district. This units that will be setting up here are expected to provide employment to about 35,000 workers.

³ <http://www.census2011.co.in/census/district/213-karnal.html>

⁴ Census 2011: District Census Handbook, Karnal

Overview of the Dairy Sector



2. Overview of the Dairy Industry

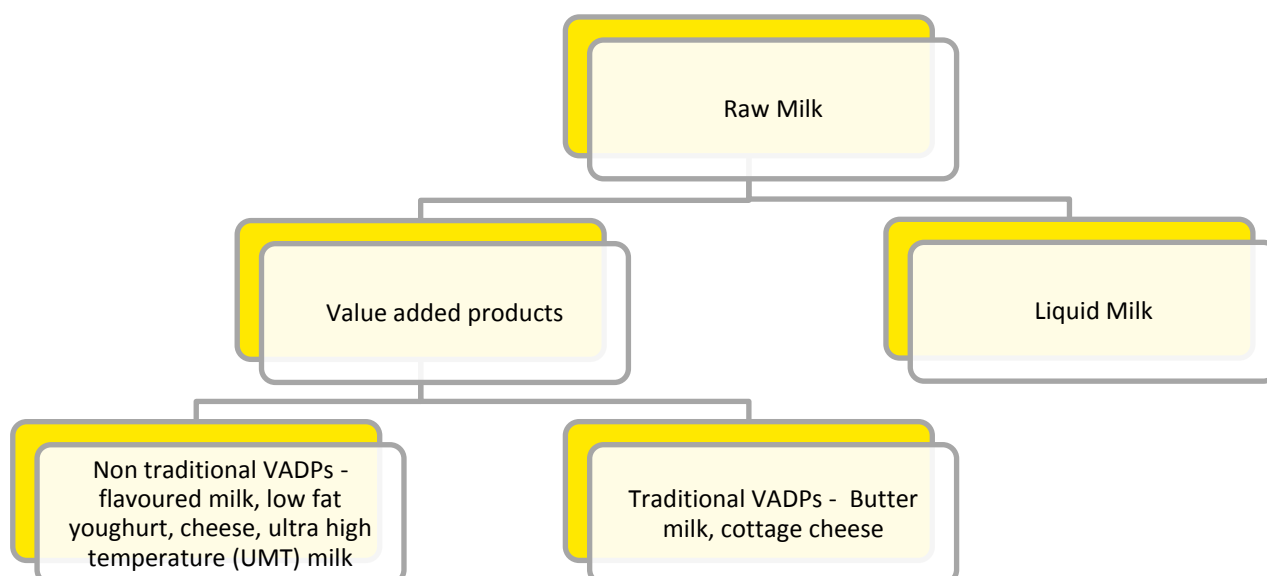
Dairy industry occupies an important place in animal husbandry domain. It embraces the production of milk, its preparation for sale and manufacture of dairy products. Dairy processing industry solely depends on availability of milk for manufacturing of dairy products. Milk has almost all the vital nutrients needed for growth and well-being of the human body; hence called 'nature's perfect food' for all ages. Dairy products account for 70 per cent of the output of the livestock sector and also provide employment to around 75 million women and 15 million men in India⁵.

The dairy industry is divided into two main production areas:

- ▶ **Primary production of milk on farms** – rearing of cows, buffalos (and other animals such as goats, sheep etc.) for the production of milk for human consumption;
- ▶ **Processing of milk** – in order to extend milk's shelf life following processes are adopted: (a) heat treatment to ensure that milk is safe for human consumption and has an extended storage quality, and (b) preparing a variety of dairy products in a semi-dehydrated or dehydrated form (butter, hard cheese and milk powders), which can be stored. These products are termed as value added dairy products as shown in figure 3.

Rising consumption of value added dairy products (VADPs) coupled with better margins has driven the growth of dairy industries towards higher profitable trajectory. Change in demographics and rapid urbanization have resulted into manifold surge in the demand for VADPs.

Figure 3: Category of dairy products



⁵ https://www.wto.org/english/forums_e/public_forum2007_e/session11_goswami_e.pdf

2.1 World overview

Dairy processing occurs world-wide; however the structure of the industry varies from country to country. In less developed countries, milk is generally sold directly to the public, but in major milk producing countries most milk is sold on a wholesale basis. Basic dairy processes have changed little in the past decade. Specialised processes such as modern drying processes, have increased the opportunity for the recovery of milk solids that were thrown earlier. In addition, all processes have become much more energy efficient and the use of electronic control systems has allowed improved processing effectiveness and cost savings.

As per Food and Agriculture Organization of the United Nations (FAO), world milk production has increased by more than 50 per cent, from 500 million tonnes in 1983 to 769 million tonnes in 2013.⁶ Presently, India is the world's largest milk producer, with 18 per cent of global production, followed by the United States of America, China, Pakistan and Brazil. Since the 1970s, most of the expansion in milk production has been in South Asia, which is main driver of milk production growth in the developing world. The countries with the highest milk surpluses are New Zealand, United States of America, Germany, France, Australia and Ireland. The countries with the highest milk deficits are China, Italy, the Russian Federation, Mexico, Algeria and Indonesia.

There is a continued shift in dietary patterns away from staples and towards animal products, due to changes in diets. Per capita demand for dairy products in developing countries is expected to grow consistently due to rising incomes and lower dairy prices. Strong consumption growth is expected across several markets in the Middle East and Asia, including Saudi Arabia, Egypt, Iran and Indonesia, with per capita consumption of dairy products in developing countries growing between 0.8% and 1.7% p.a. In addition, per capita consumption in the developed world is expected to grow between 0.5% for fresh dairy products and 1.1% p.a. for SMP⁷. Table 2 represents per capita consumption of milk and milk products in 2011.

Table 2: Per capita consumption of milk and milk products in selected countries in 2011

Country	Milk (litres)	Cheese (kg)	Butter (kg)
Ireland	135.6	6.7	2.4
Finland	127	22.5	4.1
United Kingdom	105.9	10.9	3
Australia	105.3	11.7	4
Sweden	90.1	19.1	1.7
Canada	78.4	12.3	2.5
United States	75.8	15.1	2.8
Europe	62.8	17.1	3.6

⁶ http://www.fao.org/agriculture/dairy-gateway/milk-production/en/#.WQG_OPI96M8

⁷ OECD-FAO Agricultural Outlook 2016

Brazil	55.7	3.6	0.4
France	55.5	26.3	7.5
Italy	54.2	21.8	2.3
Germany	51.8	22.9	5.9
Greece	49.1	23.4	0.7
Netherlands	47.5	19.4	3.3
India	39.5	-	3.5
China	9.1	-	0.1

Source: "Introduction to Dairy Science and Technology: Milk History, Consumption, Production, and Composition: World-wide Milk Consumption and Production". Goff, Douglas. November 2014.

Dairy producers are often organized in cooperatives or liaise with other value chain actors to process and sell milk and dairy products to consumers. At global level, skimmed milk (75%), cheese (12%) and butter (3%) represent over 90% of all processed milk. Processing activities, from pasteurization to yogurt manufacturing, add value to raw milk besides creation of jobs in dairy industry. Evidence from Bangladesh, Kenya and Ghana suggests that for every 100 litres of milk traded 1.2 - 5.7 full time jobs are created.⁸ In Great Britain, there are about 13,000 dairy farms that create a total of 28,000 full-time jobs only at farm level. The 6,200 Australian dairy farms generate about 39,000 full-time jobs. Over 736 Chinese dairy enterprises employ over 270,000 people. Overall, about 240 million people are likely to be directly or indirectly employed in the dairy sector. With an estimated 150 million dairy farms worldwide, the dairy sector supports the livelihoods of up to one billion people worldwide.⁹

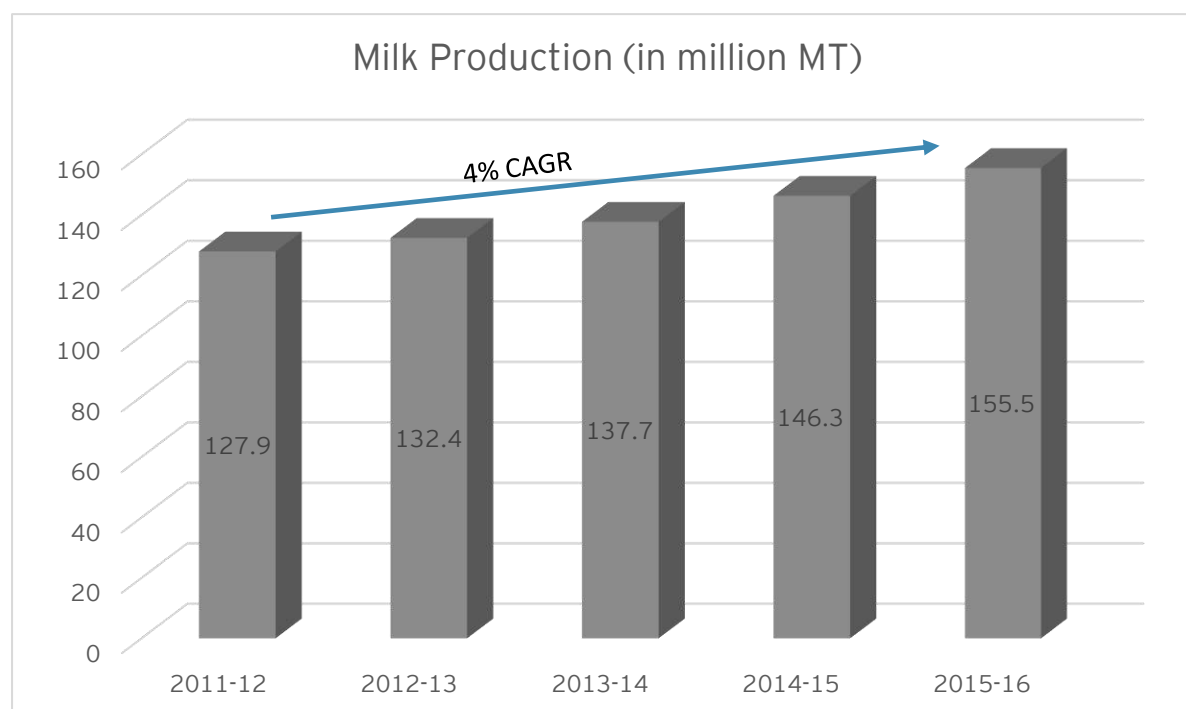
2.2 India overview

Milk production in India was boosted as a result of launch of Operation Flood in 1970 by National Dairy Development Board (NDDB) in India. It transformed India from a milk-deficient nation into the world's largest milk producer. Indian dairy market is amongst the largest and fastest growing markets in the world. India has been able to maintain its leading position in milk production during the past several years. Milk production during 2015-16 stood at 155.5 million MT. Milk production recorded about 4% CAGR during the last five years (see figure 4). Strong farm gate prices and rising domestic demand for value-added dairy products are the major factors providing impetus to a steady increase in milk production.

⁸ Omore A. et al. (2011). Employment generation through small scale dairy marketing and processing. Experiences from Kenya, Bangladesh and Ghana. ILRI: Nairobi and FAO: Rome.

⁹ <http://www.fil-idf.org/wp-content/uploads/2016/12/FAO-Global-Facts-1.pdf>

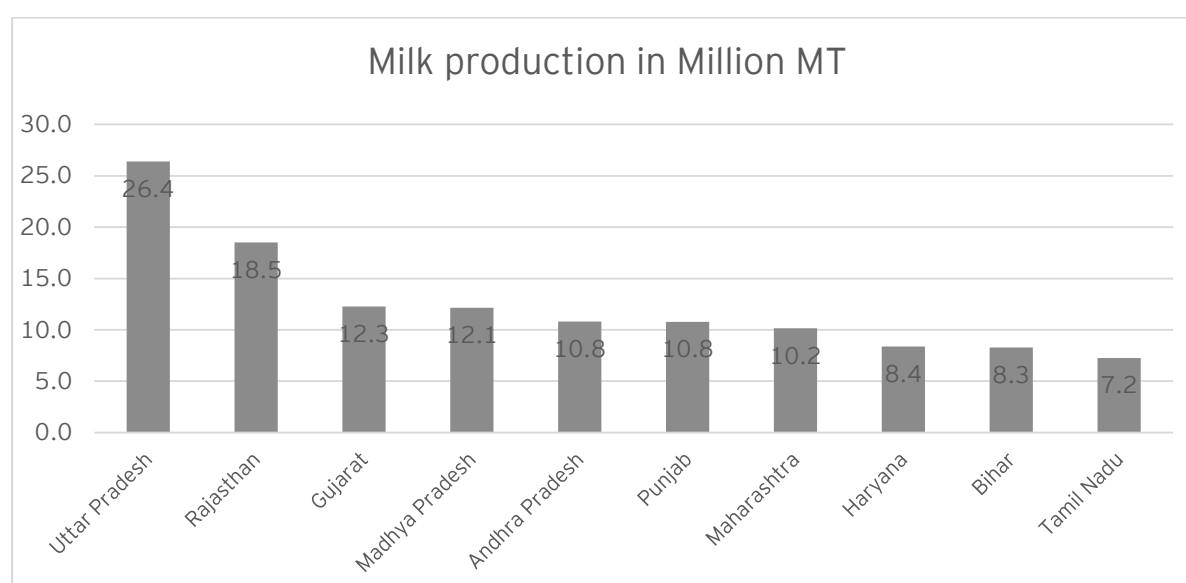
Figure 4: Trend in total milk production in India



Source: Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Govt; <http://nddb.coop/information/stats/milkprodstate> Statistics, PTI

Uttar Pradesh is the highest milk producing state contributing approximately 17.2% of the total milk production of India. Top 10 milk producing states together accounted for close to 80% of milk produced during 2015-16. Figure 5 depicts the top milk producing states in India during 2015-16.

Figure 5: Top milk producing state in India during 2015-16

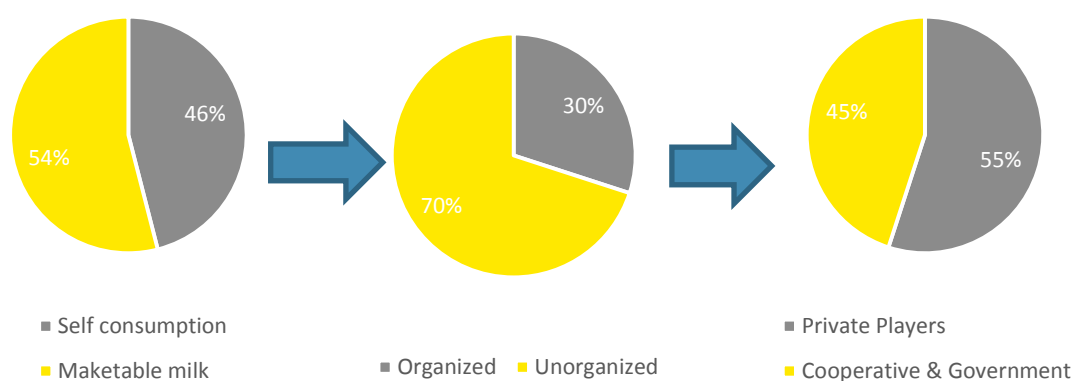


Source: Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Govt; <http://nddb.coop/information/stats/milkprodstate> Statistics, PTI

Dairy Market in India

The dairy industry in India is still predominantly unorganized with approximately 30% of marketable milk being routed through the organized channel. Private players account for approximately 55% of marketable surplus milk routed through the organized channel and rest 45% is procured by the cooperatives. Figure 6 represents the production of milk and breakup of organized & unorganized dairy market in per cent during the period of 2008 - 2011.

Figure 6: Dairy market



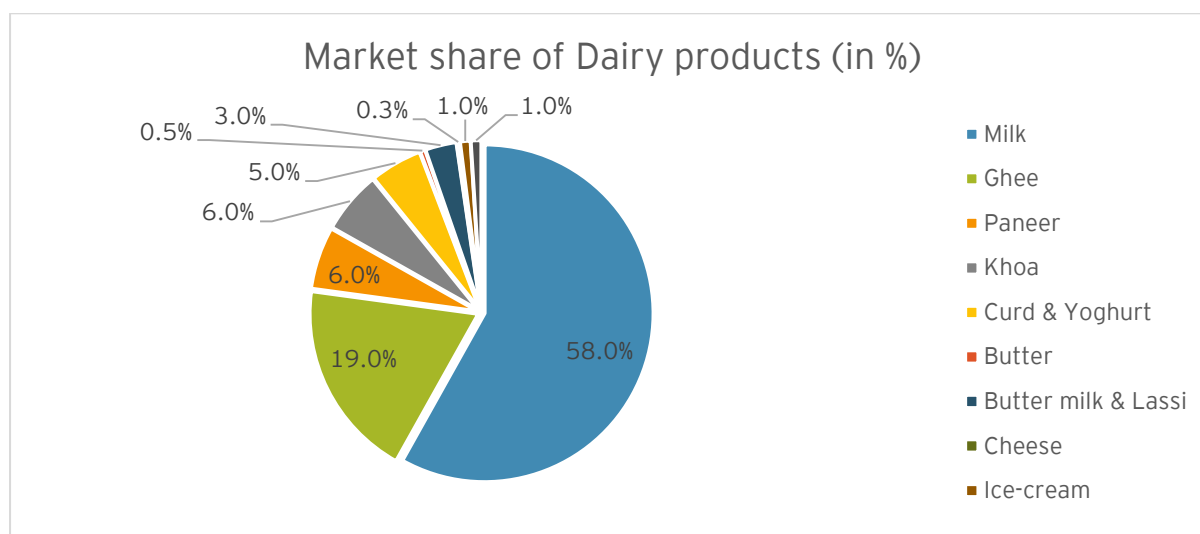
Source: Indian Dairy Market Report & Forecasts 2012-2017; IMARC

The Indian dairy industry traditionally comprise of unorganized milk producers who were scattered in rural areas and depended on middlemen to sell their produce. The registered processing capacity of dairy processing plants in India was 120.5 million litres as on 31st March 2011.¹⁰ 65% - 70% of the total milk processed in the country is sold as liquid milk. The rest is processed into dairy products like cheese, butter, ghee, ice cream, curd etc. Dairy cooperatives account for the major share of processed liquid milk marketed in India. According to National Dairy Development Board (NDDB), there were around 160,000 village dairy cooperative societies in the country in 2013-14 through which 12.5 million MT of milk was procured. Processing capacity of private players was highest at 73.3 million litres per day (61%) followed by cooperatives at 43.3 million litres per day (36%) and government players (3%).

Milk produced in India is primarily consumed either as liquid milk or converted to traditional indigenous products such as ghee, paneer, khoa etc. Manufacturing of these products is largely scattered and unorganized. There is substantial scope in organized production of these indigenous products and extension of their shelf life, and to make these products available throughout the country. Figure 7 represents market share of various dairy products in India.

¹⁰ Department of Animal Husbandry, Dairying and Fisheries 2013

Figure 7: Market share of dairy products (2014-15)

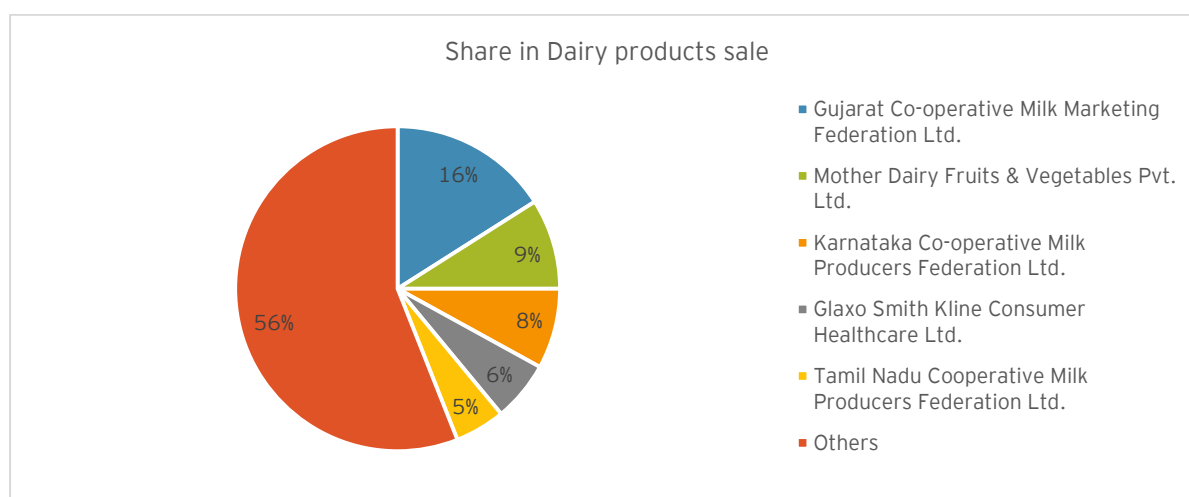


Source: CRISIL research

Major Players in Retail Dairy Market

Gujarat Co-operative Milk Marketing Federation Ltd, which sells products under brand name AMUL, is the leading player in the dairy industry with a market share of 16% followed by Mother Dairy Fruit & Vegetable Pvt. Ltd. (9%), Karnataka Cooperative Milk Producers Federation Ltd. (8%) and GlaxoSmithKline Consumer Healthcare Limited (6%). Some of the major private players include Hatsun Agro (2%), Heritage Foods (2%), Nestle India (2%), Mother Dairy Calcutta (2%), Hindustan Unilever (HUL) (1%), VRS Foods (0.9%), Britannia (0.7%) and Vadilal (0.7%). Figure 8 represents the share of major companies' sales in dairy products during 2014.

Figure 8: Company shares in dairy products sales (2014)

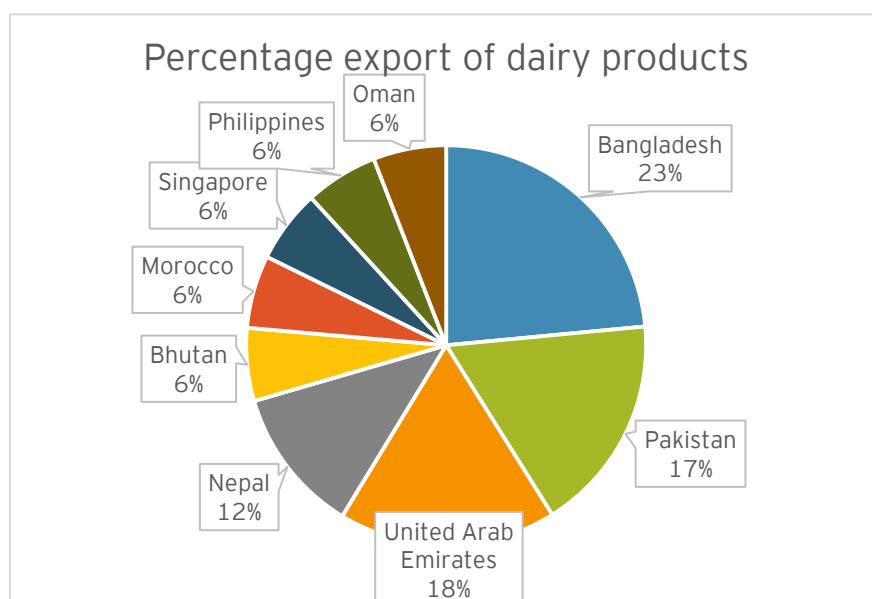


Source: Euromonitor

Exports of Dairy Products

Despite having the largest milk production, India is still a minor player in the world market. India is ranked 18th in world exports with a 1.6% share in total world exports of dairy products. India has shown a 16 % growth from 2008 to 2012 as against the 6% growth in total world's exports. SMP, casein and Ghee contribute close to 45%, 30% and 15% of India's total dairy products exports respectively¹¹. India's export of Dairy products was 66,424 MT worth USD 0.17 billion during the year 2014-15. The major exports destinations included Bangladesh, Pakistan, UAE and Nepal constituting 70% of total dairy product exports as shown in figure 9.

Figure 9: Share of different regions in export of dairy products (value terms)



Source: APEDA Agri Exchange

2.3 Haryana overview

Haryana is 8th largest milk producing state (contributing to about 5% of total production of India) in the country during 2015-16 with total milk production of 8.38 million tonnes of milk.¹² Haryana has a strong agricultural base, the by-products of agriculture in the form of crop residues are available in abundance to support dairy farming. This has resulted in good presence of dairy farming across the state.

State Government entrusted dairy development programme to an autonomous body namely "Haryana Dairy Development Corporation" in 1970. The functions of this corporation were thereafter taken over by Haryana Dairy Development Cooperative Federation (HDDCF) in 1977. This cooperative federation was made responsible for implementing the Operation Flood programmes by

¹¹ DAIRY Industry Vision 2030, Reimagining Indian Dairy, 2014

¹² NDDB

the State Government. The primary objective of federation is to promote economic interests of the milk producers of Haryana, particularly those belonging to weaker sections of the village community by procuring and processing milk into milk products and marketing thereof by itself or through its unions. The federation markets milk products under the brand name VITA. The federation operates milk processing plants in 6 districts of the state with combined capacity of 6.5 lakh litres per day as shown in table 3. The federation markets the milk predominantly in Haryana and also to other states like Delhi, HP, parts of Rajasthan and UP.

Table 3: Milk plants under HDDCF and its registered capacity

No.	Milk Plants	Year of establishment	Products	Registered Capacity (LLPD)
1.	Jind	1970-71	Liquid Milk, Ghee, Powder, Paneer, Dahi, Lassi, Kaju Pinni, Mango Drink.	1.50
2.	Ambala	1973-74	Liquid Milk, Ghee, Paneer, Dahi, Lassi, Sterilized Flavored Milk, Kheer, Milk Cake and Ice Cream.	1.40
3.	Rohtak	1976-77	Liquid Milk, Ghee, Paneer, Dahl, Lassi, Table Butter.	1.00
4.	Ballabgarh	1979-80	Liquid Milk, Ghee, Paneer, Dahi, Lassi.	1.25
5.	Sirsa	1996-97	Liquid Milk, Ghee, Powder, Paneer, Dahi, Lassi, Kaju Pinni.	1.10
6.	Kurukshetra	2013-14	Liquid Milk	0.20
			Total	6.45

HDDCF has a three-tier structure comprising milk producers' societies at the village level, milk producers' co-operative union at the district level and the state milk federation as an apex body at the state level. Presently, HDDCF has 3202 registered village societies across districts of the state. Village societies has moved away from cooperatives to garner better profits margins due to better prices offered by private players. Private players are contributing over 70 of total milk processing capacity in the state.

3. Diagnostic Study Findings

The diagnostic study was undertaken by the cluster members during July to September 2016 to map the existing business processes in the cluster, identify the gaps and understand the requirements of the dairy cluster. The diagnostic study report (DSR) for Dairy cluster was compiled by the cluster SPV with support from Skilltech Consultancy and in co-ordination and with inputs from DIC, Karnal; MSME-DI, Karnal; NDRI & Oriental Bank of Commerce. Cluster members have actively participated during the need assessment process and suggested the remedial measures to prepare an action plan. Diagnostic study revealed that cluster units have been using obsolete technologies due to lack of capital and this has led to poor quality of the products. Unavailability of whey processing facility in the cluster has compelled micro units to discharge whey in sewerage, resulting into environment pollution. Packaging of dairy products is another area of concern for these units. Poor packaging of products leads to decreased shelf life and reduced competitiveness in market.

DSR for Dairy cluster was presented to the State Level Project Steering Committee (SLPSC) on 21st October 2016 and was subsequently approved. The minutes of the SLPSC meeting highlighting the approval of DSR and permission to undertake DPR is provided as **Annexure 1**. The major findings of the DSR are presented below:

3.1 Cluster Actors and their role

Many support institutions and agencies such as industry associations, government agencies, academic/R&D institutes, financial institutions, BDS providers etc. situated within and outside the cluster play a key role in developing the cluster as well in complementing initiatives of the cluster SPV. The key stakeholders of Karnal Dairy Cluster are:

District Industries Centre (DIC)

DIC in Karnal comes under the Dept. Of Industries and is headed by General Manager who is assisted by functional managers and technical field officers. DIC promotes and routes subsidy to micro and small enterprises in the region. DIC is key stakeholder in promoting cluster development initiative in the district. The Karnal DIC has been instrumental in preparation of the DSR of the cluster, formulation of the SPV and registration of members under Unique Aadhar Memorandum (UAM) and the organization of several awareness programs in the cluster through its facilitation cell.

Joint Director, DIC, Karnal will also be member of the Project Management Committee (PMC), which shall spearhead the project implementation under MSE-CDP in the Karnal Dairy cluster.

MSME - Development Institute, Karnal

MSME-DI is a field office of the Development Commissioner (MSME), Ministry of MSME. The institute is an apex body for promoting, coordinating and monitoring the policies and programs of DCMSME in

the state. MSME -DI, Karnal along with its Branch office at Bhiwani provides a wide range of extension / support services to the MSMEs in Haryana. The MSME-DI, Karnal has been actively conducting several initiatives in Karnal cluster such as organizing awareness programs on MSE-CDP, collateral free loans under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), design clinic scheme, IPRs, technical trainings etc. It has also been involved in supporting several 'soft interventions' in the Dairy cluster at Karnal. The Director, MSME-DI will also be a member of the PMC for the project and will be guiding force to the SPV for project execution.

Banks/Financial Institutions (FIs)

Banks like Small Industries Bank of India, (SIDBI), commercial banks etc. serve the financial needs of the cluster units. The lead bank in Karnal district is Punjab National Bank (PNB). SIDBI is the apex financial institution responsible for the growth and development of the MSME sector. Almost all the government subsidy schemes and bilateral lines of credit are implemented through SIDBI. SIDBI has an office in Chandigarh whose services are envisaged to be used for appraisal of this DPR. Oriental Bank of Commerce, Karnal has been proactive in extending financial assistance to micro units of Dairy Cluster and has agreed to support the cluster by providing assistance for working capital requirement.

Haryana State Industrial and Infrastructure Development Corporation (HSIIDC)

HSIIDC is an autonomous body, set up by the Government of Haryana in 1967, is headquartered at Panchkula. HSIIDC has been playing a progressive role in the industrial development of various districts of Haryana. Over the years, it has greatly accelerated the pace of its activities by facilitation land allocation to industries, creating industrial areas and required infrastructure. Entrusted fundamentally with the task of establishing industrial areas, HSIIDC has also taken the responsibility of providing a continued assistance to the units which come up in these industrial areas. HSIIDC provides a total package of assistance at a single point to the entrepreneurs and disburses incentives of behalf of State Government. HSIIDC has provided Change of Land Use (CLU) permission from agriculture land to industrial land for acquired land by Dairy Cluster, Karnal.

Karnal Food Pack Cluster Ltd. (KFPCL)

KFPCL is an infrastructure developmental body set up to promote the growth and development of the MSMEs of Karnal. It was formed by a group of visionary entrepreneurs from dairy, print & packaging and signage & advertising sector with a common vision of enabling MSME growth through cluster development. KFPCL aims to achieve the target of inclusive growth not only for themselves at individual level but for the Karnal industry as a whole.

KFPCL has developed an industrial region with required infrastructure facilities like roads, water, street lights, drainage, etc. at Mogul Majra in Karnal. Many food processing, dairy and signage units are setting up production facilities in the industrial township of KFPCL. KFPCL also intends to provide and maintain public utility, civic amenities, R&D and Skill Development Centre in the region. Karnal

Dairy CFC Pvt. Ltd. is in the process of purchasing land from KFPCL for setting up the CFC. KFPCL will play a key role in setting up the proposed CFC as a model of complimentary facilities at a single location in Karnal. They are also working on providing marketing support to the units setting up base in Mogul Majra.

Raw material suppliers

Milk is primary raw material for dairy processing industries. Units of Karnal Dairy cluster procure milk from three sources depending on quantity and availability with producers.

- a) Milk suppliers: Milk is collected from the people who have their own chilling facilities. There are small vendors who send the milk to the factory after proper chilling, through their own tankers.
- b) Village level collection: Milk is collected twice a day directly from the farmers.
- c) Milk Chilling Centers: Some portion of milk is collected through the milk chilling centers.

Technical Institutions

There is a good presence of technical institutions in and around the Karnal district. These institutes will be able to extend necessary technical assistance and capacity building support to Dairy cluster, Karnal. NDRI is located in the heart of Karnal district and undertakes research, teaching and extension activities towards dairy development in the country. Further, the Institute provides high quality manpower to meet the human resource requirements for the overall dairy development in the country. The Institute also undertakes extension programs for transferring the know-how from the laboratory to the farmers' fields. Experts from NDRI has been consulted during finalization of hard interventions, particularly during the technical specification of machines required at CFC.

Other institutes such as National Institute of Food Technology Entrepreneurship and Management (NIFTEM), under the Ministry of Food Processing Industries, Government of India, extends support to entrepreneurs on new trends in food packaging, food processing technologies and food standards.

Haryana Chamber of Commerce & Industries, Karnal Chapter (HCCI)

HCCI is the apex industry association of the MSMEs of Haryana and has presence in all major industrial districts of Haryana. HCCI raises and addresses the problems faced by industries in the state in a coordinated manner through its chapters. It also liaisons closely with the State and the Central Government to raise its concerns for development of industries in the state in a collective manner. It has a chapter in Karnal district that takes cares of the interest of MSMEs of Karnal. Recently, HCCI has also been invited by the government to assist in the budget formulation of the state to promote industries in the state. HCCI has 133 registered members in the Karnal chapter. Members of Karnal Dairy Cluster are also members of HCCI.

The Food Safety and Standards Authority of India (FSSAI)

FSSAI is an apex body established under Food Safety and Standards Act, 2006 for providing safe and high quality foods to consumers. FSSAI lays down science based standards for articles of food and regulates manufacturing, storage, distribution, sale and import of food items. FSSAI ensures availability of safe and wholesome food for human consumption. FSSAI provides license to food processing units across the country. Dairy units also require to obtain license to carry out their operations. Some of the dairy units of cluster have obtained FSSAI license by maintaining hygiene and adhering to norms.

Haryana State Pollution Control Board (HPCB)

HPCB is a major stakeholder for the industries operating in the region from the environmental viewpoint. The main functions of the board are (a) to make sure that the units comply with the environmental regulations; (b) to collect and disseminate information relating to pollution and the prevention, control or abatement thereof; (c) to encourage, conduct and participate in investigations and research relating to problems of pollution. The board also has to implement the regulations laid out by Central Pollution Control Board (CPCB).

Dairy industry is one of the key emitter of water pollution and falls under 'Red' (polluting) category as declared by the Ministry of Environment & Forests, Govt. of India. Waste water treatment is one of the key requisite for setting up dairy processing unit. CFC also proposes ETP to mitigate the risk of water pollution by the industry. Whey processing shall also result in controlling pollution due to dairy units. Karnal Dairy CFC Pvt. Ltd. shall be required to obtain clearances from HPCB to start its operations.

Other key stakeholders located outside the cluster

There are a number of other service providers and institutions located outside the cluster but they are important stakeholders in the business environment of cluster units. Some of these are mentioned below:

National Small Industries Corporation (NSIC)

NSIC is a Government of India enterprise under Ministry of MSME. NSIC was established in the year 1955 with a view to promote, aid and foster growth of small industries in the country. Some of the services and schemes offered by NSIC are:

- ▶ Helping entrepreneurs in purchasing machinery and equipment
- ▶ Equipment leasing and working capital finance
- ▶ Raw material assistance and information on technological up gradation
- ▶ Composite loan scheme and export assistance

The nearest NSIC office is in Panipat district of Haryana and extends guidance to SPV members to support their activities.

Indian Dairy Association (IDA)

Indian Dairy Association is the apex body of the dairy industry in India established in 1948. The members are from the cooperatives, MNCs, corporate bodies, private institutions, educational institutions, government and public sector units. IDA functions very closely with the dairy producers, professionals & planners, scientists & educationists, institutions and organizations associated with the development of dairying in India.

IDA has been providing a common forum to knit the dairy fraternity together and thus, over the years, it has emerged as a robust association of dairy industry. The Association is managed by an apex policy making body called the Central Executive Committee (CEC). The CEC is headed by President and supported by two Vice-Presidents and 19 Executive Committee Members. The IDA is headquarter is located in Delhi and has 8 state chapters across country. One of the state chapter is also located at Karnal (Haryana).

The key stakeholders of the Karnal cluster are presented in figure 10:

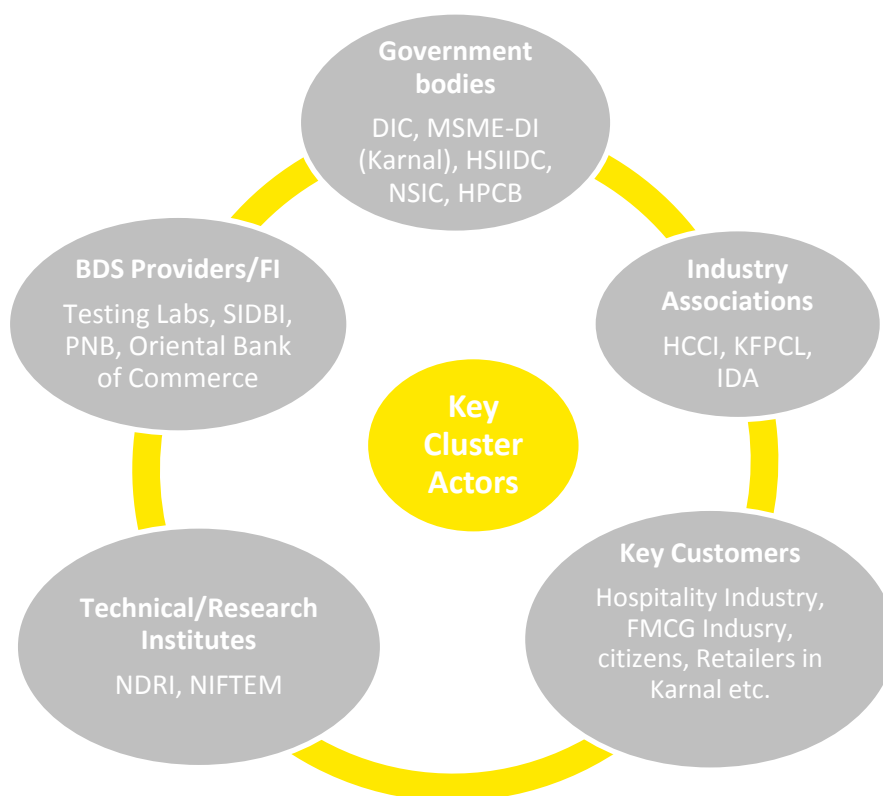


Figure 10: Stakeholders of Dairy Cluster, Karnal

3.2 Cluster Turnover, Market, Employment

The cluster units are mainly concentrated in & around Karnal. There are about 250 units in the cluster. Micro category comprises of 240 units and constitute the major segment, 5 units belong to small category and 5 to medium category. The classification of units in terms of size is shown in figure 11.

Cluster units are providing direct employment to 3000 workers and around 1200 workers are engaged indirectly to facilitate various activities in the cluster. Most of the workers in these units are migrants from adjacent states particularly Uttar Pradesh. Women workers are few in number and primarily works as auxiliary labour. Employment status of Karnal Dairy Cluster is shown in figure 12.

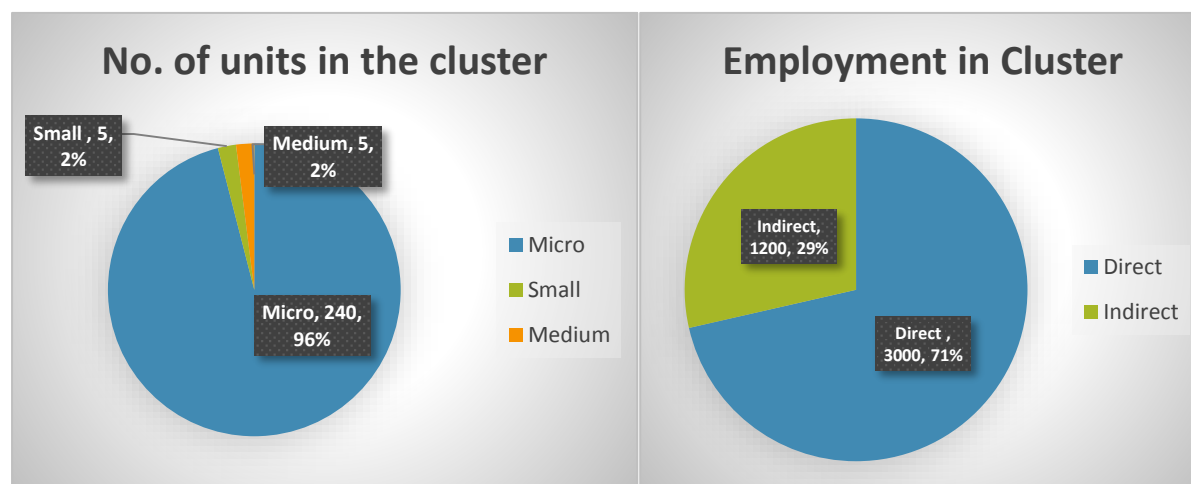


Figure 11: Classification of units

Figure 12: Employment status in Cluster

The total turnover of the cluster is estimated to be INR 650.00 crores and has not been exporting dairy products. Turnover of cluster during last five years is as follows:

Table 4: Turnover of Karnal dairy cluster

S. No.	Financial Year	Turnover of dairy cluster (in Rs. crores)	Export of dairy cluster (in Rs. crores)
1	2015-16	650.00	0.00
2	2014-15	600.00	0.00
3	2013-14	560.00	0.00
4	2012-13	520.00	0.00
5	2011-12	470.00	0.00

Source: Karnal Dairy CFC Pvt. Ltd.

Most of the units are supplying their produce to local market and restaurants in Karnal and on NH-1. There are few major players like Modern Dairy, Bharti Dairy in Karnal district which are distributing across the state. Units of Karnal Dairy cluster lack quality, production capacity and packaging due to technological backwardness. Cluster units are unable to compete with bigger players to obtain bulk orders from large customers and hotels/restaurants located at NH-1.

The major products manufactured by the cluster units along with the number of units engaged in producing these products is mentioned in table 5.

Table 5: Products manufactured by cluster units

S. No.	Products	No. of units
1	Processed Liquid Milk	70
2	Curd & Yoghurt	50
3	Cheese	120
4	Butter & Ghee	100
5	Condensed milk	25
6	Khoa	70
7	Dry milk Powder	10
8	Cream	35
9	Ice-cream	60

This cluster has potential to increase its production and market share through manufacturing of quality dairy products at competitive prices. The proposed CFC will be open to all cluster firms and provide an opportunity to micro units in getting job work done using chiplet packaging, whey drying and cream packaging. This will in turn increase individual capacity utilization and profitability of cluster units. The facility will provide a major infrastructural push to the units. The CFC will also lead to creation of number of jobs for supervisors, machine operators and unskilled workers like helpers at CFC and individual units.

3.3 Production Processes

The general trend among dairy processing plants is to automate the processing through more efficient equipment. Technological development has enabled dairy processing units to improve the quality and shelf life of the product through various processes. Basic dairy processes like pasteurization, coagulation etc. have changed little in the past decade. Specialized processes such as drying processes have increased the opportunity for the recovery of milk solids that were formerly discharged. Units of Karnal dairy cluster have been using semi-automated processes. This has led to lack of hygiene practices, increased wastage, increase production cost and poor energy efficiency.

Process of Butter making

Butter making process involves several steps, it starts with separating cream from the milk. The cream is pasteurized at a temperature of 95°C or more to destroy enzymes and micro-organisms. The detailed process of butter making is represented in figure 13 below.

Aging: Cream is held at cool temperatures to crystallize the butterfat globules. In the aging tank, the cream is subjected to control cooling for 12-15 hours to give the fat the required crystalline structure.

Churning: Cream is agitated, and eventually butter granules form, grow larger, and coalesce. In the end, there are two phases left: a semisolid mass of butter, and the liquid left over, which is the buttermilk.

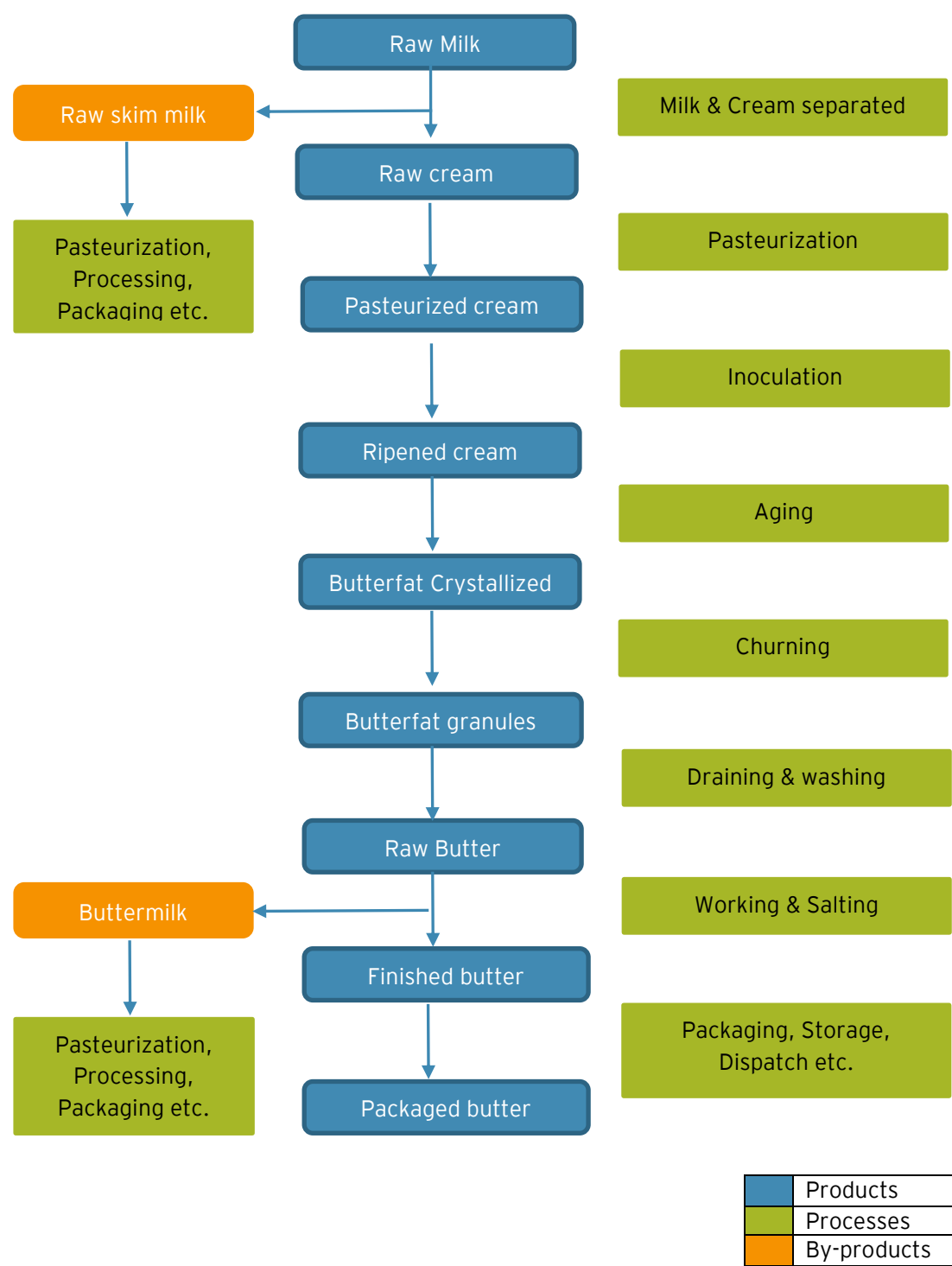
Draining & washing: The cream is split into two fractions: butter grains and buttermilk. In traditional churning, the machine stops when the grains have reached a certain size, whereupon the buttermilk is drained off.

After draining, the butter is worked to a continuous fat phase containing a finely dispersed water phase. This washing process would ensure that all the butter milk is washed out of the butter.

Salting & working: Salt is used to improve the flavor and the shelf-life, as it acts as a preservative. Further, the butter is worked to improve its consistency.

Packing & storage: The butter is finally patted into shape and stored in a cool place. As it cools, the butterfat crystallizes and the butter becomes firm.

Figure 13: Butter making process

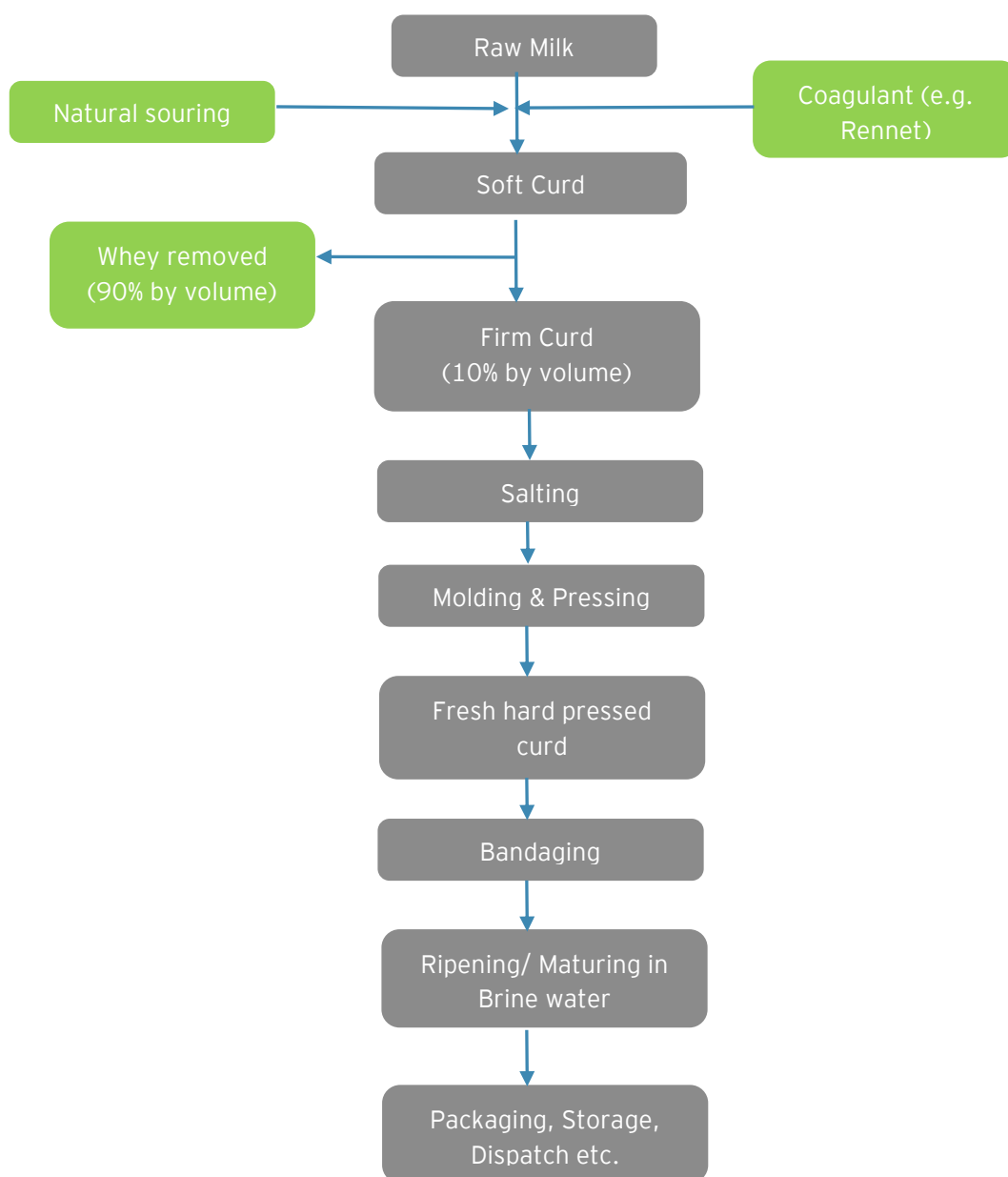


Process of Cheese making

The process of cheese making involves two basic phenomenon (refer fig 14):

- Preparation of cheese curd
- Ripening of cheese which are accomplished through a series of steps, namely, preparation of milk, addition of starter, rennet coagulation of milk, processing of the curd (cutting, washing, draining, matting, and pressing) salting of cheese curd and ripening / curing of cheese curd into final product.

Figure 14: Cheese making process



3.4 Value Chain Analysis

Value chain analysis is a strategic tool used to analyse internal firm activities. Its goal is to recognize, which activities are the most valuable to the firm and which ones could be improved to provide competitive advantage. The analysis also reveals a firm's competitive advantages and disadvantages. The units of Karnal Dairy Cluster intend to perform some production activities at lower costs to enhance their competitiveness.

Value chain analysis of most commonly produced cluster product (i.e. Butter) has been conducted to analyse the internal activities to propose corrective measure to increase competitiveness. The same is provided in table 6.

Table 6: Value chain analysis for manufacturing of 10 gm butter chiplet from 1 kg butter

Particulars	Value Added	Total Value (Rs.)	% of Cost of production
1 Kg butter	300	300	78.95%
Homogenization of butter	10	310	2.63%
Chiplet manufacturing	30	340	7.89%
Electricity	5	345	1.32%
Labours	15	360	3.95%
Packaging material	15	375	3.95%
Transportation	5	380	1.32%
Total Cost	380		
Profit Margin	40		
Selling Price	420		

It is evident from the above table that raw material (79%) and Chiplet manufacturing (8%) contributes maximum to the cost of production. Processing includes activities of homogenization, chiplet manufacturing and packaging in printed foils, these processes constitute 21% of value addition. The basic aim is to improve the quality and packaging of the product through deployment of modern machines. These improvements will make the product more competitive and cater new market.

Implementation of modern machines on CFC basis, will reduce the operational cost per product significantly. Further, minimizing the cost of production through increased value addition in production and finishing operations shall increase the profit margin of the cluster units.

3.5 SWOT Analysis of cluster

A SWOT (Strength, Weaknesses, Opportunity and Threat) analysis of the Dairy units has been carried out keeping in mind the technology, marketing, product quality, skills, inputs, production, & business environment of the units. This has helped to understand the real situation of the cluster and the same has been presented in table 7.

Table 7: SWOT Analysis of the cluster

	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Markets	<p>Steady local demand for cluster products by hospitality industry in Karnal district</p> <p>Proximity to the Delhi and well connected to all major cities of North India</p>	<p>Sales only confined to low income consumers and hospitality industry</p> <p>Lower production capacity of units to explore & cater new markets</p> <p>Lack of product diversification of dairy based products</p> <p>Lack of information on changing customer preference</p> <p>No Systematic Marketing effort</p> <p>Marketing efforts limited to Karnal and adjoining areas only</p>	<p>Increasing per capital consumption & demand of processed Dairy products in urban areas</p> <p>Improvement in packaging techniques to increase shelf life, branding and advertisement of dairy products</p> <p>Potential to process the dairy products to increase the shelf life of products</p> <p>Increasing preference to packaged Dairy products across FMCG sector</p> <p>Availability of processing facilities to process the unused whey and selling to industry</p> <p>Government support available for buyer-supplier contacts through fairs, meets, web portal etc.</p>	<p>Intense competition from large units based in Delhi NCR deploying automatic machines</p> <p>Squeezing margins may drive many micro Dairy units out of the market</p>
Technology/ Product quality	<p>Capability to produce low volumes competitively</p> <p>Some units have obtained (Hazard analysis and critical control points) HACCP certification</p> <p>Entrepreneurs aware about new technological developments in Dairy industry</p> <p>Technical assistance by government & research institutions (NDRI)</p>	<p>Most of the units are using obsolete machines leading to poor quality of products</p> <p>Cluster units lack capability to install advance facilities to produce quality products</p> <p>Inability to execute large orders at competitive prices</p> <p>Lack of hygienic practices and awareness on quality assurance measures</p>	<p>Adoption of modern packaging facility such as foil packaging for butter chipllet and contemporary Cream packaging at CFC to improve the quality and shelf life of products</p> <p>Availability of Whey drying facility to convert whey into powder to increase income and minimize pollution due to whey discharge</p> <p>Innovation in Dairy products packaging technology</p> <p>Extended support from government to improve the technology used by MSE</p> <p>Process automation for increased quality and productivity to provide economic viability</p>	<p>Micro units unable to get bulk orders from large scale buyers such as restaurants and hospitality industry due to their lower production capacity</p> <p>Reluctance to share good practices with other units</p> <p>Automated Production process to increase efficiency & product quality may drive micro players out of the market.</p>

			Assistance to small units to adopt lean techniques to enhance their productivity	
Skills/ Manpower	<p>Skills acquired on-the-job</p> <p>Educated & experienced entrepreneurs</p> <p>Availability of economic labour</p> <p>NDRI & NIFTEM conducts courses on dairy technology</p>	<p>Shortage of skilled manpower in the cluster</p> <p>Lack of interaction between SMEs and academic institutes to transfer new technology from lab to field</p>	<p>Availability of government sponsored training program on dairy technology for skill upgradation</p> <p>Bridge gap between industry and academic institutes providing specialised training programmes</p>	<p>Non-availability of skilled manpower</p> <p>Local youth not keen on working in small units</p>
Inputs	<p>Availability of sufficient quantity of milk from cattle rearers farmers in Karnal district and adjoining areas</p> <p>Availability of milk at fair prices</p> <p>Availability of power</p>	<p>Increasing prices of raw milk</p> <p>High transportation cost for procurement of milk</p> <p>No energy audits practiced</p> <p>Wastage of raw material</p>	<p>Potential to reduce energy costs by energy auditing</p> <p>Opportunity to develop a portal displaying information (availability of milk and enquiries from customers)</p>	<p>Rise in price of milk may lead to increased investment in the industry</p>
Business Environment	<p>Steady growth in per capita consumption of dairy products</p> <p>State industry department is proactively undertaking several developmental initiatives for MSMEs</p> <p>Active industry associations and cluster SPV, have good knowledge about government schemes</p>	<p>High cost of industrial land in the cluster</p> <p>Lack of common infrastructure/CFC facilities</p> <p>Lack of whey processing leads to massive effluent discharge</p> <p>Lack of amenities for workers</p> <p>Lack of bargaining power of units</p>	<p>Establish CFC with latest technologies for quality products like foil packaged butter chiplet & packaged cream and increasing efficiency by mechanizing processes</p> <p>Whey processing facility can have major environmental benefits</p> <p>Create better awareness of government schemes and regulations</p>	<p>Dairy is a dynamic industry and large firms with modern technologies are capturing major market share, leading to a declining trend for micro and small industries</p>

3.6 Major issues/problem areas of the cluster

- **Lack of technology to mitigate polluting effects of whey on environment:** The dairy industry is one of the most polluting industries in terms of the volume of effluent generated. Whey is primary dairy waste and becomes acidic quite rapidly due to the fermentation of milk sugar to lactic acid. The suspended matter content of whey results in formation of heavy black sludge and strong butyric acid odours.

Table 8: Characteristics of dairy industry wastewaters (composition in mg/l, except pH)

Waste Type	COD (Chemical oxygen demand)	BOD (Biochemical oxygen demand)	pH	TSS (Total suspended solids)	TS (Total solids)	Reference
Milk & Dairy Products	10251.2	4840.6	8.34	5802.6		Onet, Cristian,2010 ¹³
Dairy effluent	1900-2700	1200-1800	7.2-8.8	500-740	900- 1350	U. B. Deshannavar, et al 2012 ¹⁴
Dairy waste water	2,500- 3,000	1,300-1,600	7.2-7.5	72,000- 80,000	8,000- 10,000	Javed Iqbal Qazi et. al, ¹⁵
Whey	71526	20000	4.1	22050	56782	Deshpande D.P. et. al, 2012 ¹⁶

The sweet whey form the most polluting effluent by its biochemical composition rich in organic matter (lactose, protein, phosphorus, nitrates, nitrogen) and is from 60 to 80 times more polluting than domestic sewage and other dairy waste waters as depicted above in table 8. All these components contribute largely towards their high biological oxygen demand (BODS) and chemical oxygen demand (COD). Micro units generally release this waste to the nearby stream or land without any prior treatment, which causes serious pollution problems. This effluent also poses great risk to public health as it facilitates breeding of flies and mosquitoes carrying malaria and other dangerous diseases like dengue fever, yellow fever, chicken guniya.

- **Lack of innovation and limited access to advanced technologies:** Almost all the micro and small scale units in the cluster deploy manual practices and obsolete technologies for dairy processing and manufacturing of products. Cluster units lack access to advanced machinery and infrastructure to manufacture value added Dairy products. These units also lack proper technology to improve the shelf life of dairy products. Also, there is no testing lab in the cluster to test the raw materials and finished products. The present machineries are obsolete with low

¹³ Onet Cristian (2010), Characteristics of the untreated wastewater produced by food industry *Analele Universității din Oradea*, Vol. XV.

¹⁴ U. B. Deshannavar, Basavaraj. R. K and Nandini M. Naik (2012), High rate digestion of dairy industry effluent by upflow anaerobic fixed-bed reactor, *Journal of Chemical and Pharmaceutical Research*, 4(6):2895-2899

¹⁵ Javed Iqbal Qazi et al. (2011), Anaerobic Fixed Film Biotreatment of Dairy Wastewater *Middle-East Journal of Scientific Research*

¹⁶ Deshpande D.P., Patil P.J. and Anekar S.V. (April 2012), Biomethanation of Dairy Waste, *Research Journal of Chemical Sciences*, ISSN 2231-606X Vol. 2(4), 35-39.

production capacity and high energy consumption. Quality is another major concern with existing machinery & technologies. This has led to reduced market share of these units in Dairy market.

- ▶ **Production inefficiencies:** Deployment of obsolete machines means increased dependency on manual operations, it leads to operational inefficiencies and higher cost of production. The units in the micro and small sector incur higher cost of production for manufacturing dairy products compared to their bigger counterparts. This has hindered the ability of micro and small firms to obtain bulk orders from anchor units. Consequently, the units are witnessing plunging market shares and their sustainability is also in jeopardy.
- ▶ **Lack of quality and standardization of products:** Dairy products of the cluster are not consistent due to lack of adequate efforts and technology required for standardization. Cluster units have been involved in manufacturing of dairy products using traditional methods without giving much attention to quality and hygiene. Only a few units of cluster have HACCP certification to ensure food safety. The cluster is presently catering to the local retail stores and eateries due to inability to meet the standard set by market competitors. Lack of quality and standardization have been hindrance to expand the market.
- ▶ **Lack of innovation and environmental problems:** Lack of whey processing facilities result in massive discharge of whey which could be processed and converted into whey powder. About a lakh litre of whey is discarded everyday by local dairies. This whey can be converted into whey powder which will have multiple applications in dairy, health and pharma industry. Additionally, the packaging methods used by the local dairies are quite outdated leading to reduced shelf life of products like cream and butter as well as increased packaging cost. This also reduces the aesthetics of the packaging, thereby unable to attract a customer's attention.
- ▶ **Inability to capture the market segment:** The cluster units are smaller in size with lesser production capacity. Individually they have not been able to garner bulk orders. Moreover, these units do not have appropriate technology for packaging and infrastructure for storage. These factors have limited their access to market. In order to increase the production capacity as well as improving shelf life of products, units require modern efficient machineries. Lack of capital to purchase these machines has limited the competitiveness of these units.
Besides, there have been no effort by these units to export their dairy products to other countries. Availability of milk on economic rates and economic labour has resulted in lower cost of production as compared to other leading dairy processing countries. Support is available from government to dairy processing units for training of manpower and certification.

Due to inexistence of these facilities, the units are facing cost inefficiencies, material wastages and poor and quality of products. This has resulted in losing market shares for these units. Facilities

proposed at CFC with government support will help these units become more competitive and move up the value chain.

3.7 Key technologies missing

The technological gaps on various fronts that the CFC proposes to target, along with scope and illustration of major facilities is provided in table 9.

Table 9: Current technologies, gaps and scope of upgradation

Critical technology gaps in the cluster	Scope of upgrading through enhancing technological infrastructure on CFC mode
Whey processing & drying operation	
Whey is the portion of milk left after cheese or casein is made. Whey is about 96% water but contains some valuable protein, lactose (milk sugar) and various dissolved minerals & vitamins. Whey is usually discharged by dairy units at Karnal due to lack of whey processing facilities. Throwing of whey is also a reason for water pollution. Whey has wide range of applications, especially in the food industry. Condensed whey and whey powder can be used for both production of foodstuffs and animal feed. Individual units are unable to invest in the equipment required for these operations due to lack of capital and scale of operation.	<p>Availability of whey processing and drying facility in Karnal cluster shall provide these units an option to use whey instead of throwing it and process it to form whey power. Whey powder is used to make food products such as custards, confectionery, crab-sticks, sports drinks, baked goods and yoghurts. It is also used by pharma industries for drug manufacturing. Whey powder could also be sold in the market at higher rates. This facility shall provide cluster units opportunity to use the waste whey and generate additional income for the products which is not utilized until now. Whey has presently good market demand due to its use in various confectionaries and health products.</p> <p>This facility will have dual effect on both income of owners and environment protection. This facility will allow the micro units, which are releasing whey in sewage, to store the whey using chiller and get incentives in the form of increased income. Containing pollution by the way of processing whey is another major benefit of this facility.</p>
Cream processing & packaging operations	
Cream is another widely used dairy product in the country. Presently, dairy industry is using tetra packaging for packaging cream. Tetra packaging is one of the expensive packaging method employed in the dairy sector.	Availability of Cream pasteurizer machine along with packaging machine can increase the shelf life up to 6 months. This shall also lead to reduced cost of packaging. The cost can be

Cluster units at Karnal intend to pack processed cream in PET bottles to increase the shelf life of packaged cream due to better protection properties of plastic. PET bottle offer facility of sealing the cream using cap and further increase the shelf life which is unavailable in case of tetra pack packaging. Cream is presently being sold in local packaging, which leads to reduced shelf life and poor quality of product. Presently there is no such facility in the cluster to pack the cream due to expensive machines.	minimized up to Rs. 4 per pack in comparison to tetra packaging. Cream has also good demand in the region and presence of such facility shall boost the dairy industry at Karnal. This facility will enable about 150 micro units of dairy cluster to package the remaining butter with them on daily basis. Cream processing and packaging facility at CFC will create an opportunity to these units to avail these facilities and increase their income.
Butter Chippet Packaging operation	
Butter chiplet is one of the most consumed dairy product in the region. Presently, there is no packaging facility for Butter chiplet in Karnal dairy cluster. Butter chiplet are butter brick of 10-25 grams packed in aluminium coated plastic/paper based packaging material. Butter is required in chiplet form to customize the packaging size, reducing wastage and ensuring hygiene. These chiplet are primarily used in hospitality sector. Butter chiplet are primarily manufactured by big players and there is no such facility in Karnal district. The region has good presence of restaurants on NH1 and dietary preference of consuming butter, leading to sizable demand of butter chiplet. Cluster units intend to improve packaging facility for butter chiplet to increase their market share. Butter chiplet packaging machines are not available in the country and had to be imported. Units of the cluster are not capable to purchase these facility on individual basis.	Availability of Butter chiplet packaging facility in dairy cluster will open new market avenues for dairy products in Karnal. This facility shall improve the product quality (maintaining hygiene and improved packaging) and enable these units to compete with bigger players. Cluster units also intends to replace plastic packaging of butter chiplet with aluminium foil packaging to provide environment friendly packaging solutions. The proposed intervention shall also reduce the packaging cost per chiplet by 70% and increase the profit margin for these units. This shall also enable cluster units to increase their market share by entering into new product line.
Testing facilities	
Dairy industry is required to ensure food safety throughout the process of fluid milk collection, transportation, processing, and conversion to final products. Testing of products and inputs is one of the pre-requisites of dairy industry to ensure quality of products. There is no testing facility available in the cluster to test chemical properties (e.g. SNF, proteins, sugars etc.) of milk and finished dairy products in the cluster. This has restricted the marketing of products which require thorough testing at each stage of processing. This is one common requirement of the cluster units of Karnal dairy industry.	Presence of testing lab in the cluster shall ensure the desired quality of products. This shall further enable cluster units to expand their market share and tie up with large size consumers. Testing lab facility in the cluster shall run on the commercial basis and provide testing facilities to these units for range of products. Testing of products shall also increase the product credibility in terms of market acceptance.

	CFC shall require testing for milk and milk products like milk, cream, butter, powders (whey & SNF) to test on the required parameters like protein, fat, moisture, pH, BR readings etc.
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3.8 Cluster growth potential

Karnal Dairy cluster has enormous potential to grow with increasing demand of processed dairy products across the country. Increasing incomes, urbanization, and other demographic shifts are driving the demand for processed products such as milk powder, whey powder, butter, ghee, paneer (cottage cheese), flavoured milk, ice cream, cheese, yogurt and butter milk etc. Consumer concerns about safety have also driven demand up for packaged products owing to its long shelf life. Karnal also has availability of good quality fresh milk at economic prices along with well-established milk collection channel to ensure availability of sufficient milk for processing.

One of the key strengths of the Karnal dairy cluster is strategic location (both geographically & industrially) of the district. It is located 130 km from Delhi, 125 km from Chandigarh and is well connected with states of northern India. There is a heady market for products with enhanced shelf life like butter and cream on the NH-1. Additionally, potential of export of dairy products to neighbouring countries due to quality, lower production cost and better storage facilities.

Presently, the cluster is aiming to cater the demand of dairy products of highway eateries/restaurants located on NH-1. This is a ready market creating a huge demand of dairy products in the vicinity. This industry requires bulk quantity of butter chipllet and milk cream for daily consumption. This demand is catered by bigger players of dairy industry since small dairy units are unable to maintain required quality at competitive prices.

Karnal district also has a thriving pharma industry with presence of large number of pharma manufacturing units. Whey proteins are one of the key ingredients used in pharmacology and cosmetology (shampoos and hair creams) due to its natural origin and emulsifying properties. This provides another market avenue to the proposed whey processed products. Whey proteins are also used in paper coating to provide good appearance, printability and low water vapour permeability.

However, the cluster units have been unable to effectively cater to these market segments so far due to lack of technological capacities, low production scales and outdated processes. Against this backdrop, if modern dairy processing facilities (butter chipllet manufacturing, whey drying and milk cream packaging) are provided to micro and small units of the cluster under CFC mode, their production costs will reduce and they will be able to garner bulk orders from hospitality, retails and pharma industries.

4. Diagnostic Study Recommendations

Based upon the diagnostic study report and subsequent intense discussions with various cluster stakeholders, members of the SPV- Karnal Dairy CFC Pvt. Ltd during formulation of this Detailed Project Report (DPR), a mix of hard and soft interventions have been/ are being proposed to enhance the competitiveness of the cluster units. Some of these activities have been undertaken by the SPV with government support to ensure the survival and growth of the dairy units in Karnal. The recommendations and action taken for both soft and hard interventions have been elaborated in subsequent sections.

Cluster enterprises have also been undertaking several soft interventions (before, during and after the DSR) by themselves and have been active in enhancing their awareness and exposure to dairy processing industry. The units have conducted several awareness programs and trainings in collaboration with DIC, MSME-DI, Karnal and BDS providers. They have also conducted exposure visits to other developed clusters, participated in national and international exhibitions and facilitated UAM registrations. This proves the proactive character of the SPV members and its ability to establish and run a CFC.

4.1 Soft Interventions recommended and action taken

1. **Capacity Building and Awareness Generation:** One of the primary recommendation for soft intervention was to build the capacities of cluster units and generate awareness among stakeholders regarding cluster development (collective approach to address their issues) and benefits available to them in the form of cluster. Towards this, the cluster units had organized a series of workshops, the details of which are provided below:

- **Need assessment consultation with MSMEDI at Manka Resort (Karnal) dated 10.07.2016:** a consultation was held between the SPV members, members of HCCI Karnal and representatives of MSME DI and DIC Karnal Gulati. Mr. Pankaj Bharti explained about the dairy cluster and the problems such as packaging, hygiene, storage, transportation etc. being faced by units of cluster. He also mentioned about the discharge of whey and its environmental implications. Cluster members have been taking collective initiative and have also identified land at Mugal Majra to set up the CFC. Their efforts were appreciated by dignitaries present in the meeting. They also invited suggestion regarding the



development of dairy cluster at Karnal. Officials of MSME-DI assured their full support for cluster development.

- ▶ **Workshop on forming SPV for Dairy Cluster:** a workshop was conducted on 10/03/16 at a local hotel with dairy cluster members to form a SPV (Special Purpose Vehicle). The participants were sensitized regarding the issues being faced by cluster units such as technological backwardness, poor packaging & storage and losing market share. Subsequently, members were explained on how they can address these major issues by availing benefits under government schemes by forming an SPV. Members were educated regarding MSE-CDP scheme of Govt. of India and process to avail grants under the scheme. Members also discussed on the technological advancement required to compete with big players in the industry. About 20 members of dairy cluster gave their consent to be a part of SPV during the workshop. The members of SPV also decided to interact with Haryana Govt. officials to seek support in availing MSE-CDP.

- ▶ **Discussion on common facilities required for Dairy cluster, Karnal:** a meeting was organized on 29/07/16 at Gymkhana Club by cluster members to identify the technology required at Karnal Dairy cluster. The meeting was headed by Mr. Pankaj Bharti. He addressed on the expanding dairy market and technological advancement in the industry. He also detailed on functioning of SPV to manage Dairy CFC. Members also discussed the available Government support for cluster development activities, Testing Lab and trainings with the team of MSME-DI. Members also provided the requisite details for registration of SPV during the meeting. Members of dairy cluster then discussed about machinery, competition with bigger players and other issues regarding common facilities.



- ▶ **An orientation program of cluster stakeholders** was organized during August 2015 on cluster development schemes. This was organized under the aegis of KFPCL. The orientation program was graced by the Principal Secretary, Department of Industries; Director, Industries; Vice Chancellor, NDRI; Chief Manager, Oriental bank of Commerce; OSD to Chief Minister; Zonal head, Laghu Udyog Bharti; and members of Dairy cluster. Cluster members presented the challenges faced by them and support required from the government. Members of cluster also raised their concerns regarding lack of credit facility, training facility, R&D etc.



Participants were educated on the scheme of MSE-CDP and process of availing benefits under different MSME scheme. Members were also informed about the proactive role of state government to implement this scheme in the state of Haryana. Director Industries informed the participants about the benefits available to MSME entrepreneurs under state Enterprise Promotion Policy (EPP) 2015. He informed that state government has increased its contribution under MSE-CDP from existing 10% to 20% of the project cost up to 15 crores and will also offer assistance for projects beyond 15 cr limit. Other stakeholders present during the meeting informed the cluster members about the support available to cluster from their respective organizations to the Dairy cluster. NDRI also agreed to extend support to cluster development activities in Karnal dairy cluster.

- ▶ Cluster members organized a **meeting with Laghu Udyog Bharti** to discuss the functioning and operations of SPV under MSE-CDP and to capture inputs for DSR during the month of September 2015. The main agenda for this meeting was to educate members



regarding the roles and responsibilities of SPV. The members were informed regarding the formation of legal entity in the form of SPV to manage and operate CFC for Dairy Cluster, Karnal. It was also explained that SPV shall have minimum 25 members and contribution of each members cannot exceed more than 10%. Technical details for selection of Directors, equity contribution and role of members in functioning of SPV were also discussed among the participants.

- ▶ **Cooperation and trust building** among members is foremost condition for smooth functioning of cluster and SPV. A meeting was organized by cluster members during the month of November 2015 at Karnal Agro Park to enhance cooperation among member units and to obtain inputs for DSR. Members of the cluster were informed about the registration of company for cluster and identification of land for CFC. Members of cluster raised their concerns during the meeting which were resolved by other members of the cluster.



2. **Exposure Visits and Participation in Trade Fairs:** In order to enhance the exposure of cluster units on new and emerging technologies in the dairy processing industry as well as new product development, number of exposure visits were recommended. The aim was to gather technical

experiences required for developing their cluster. Additionally, recommendations for participation in trade fairs and exhibitions were made to provide a platform to cluster units to promote their products as well as witness innovative products being brought out in the market. The following actions were taken in this regard:

- ▶ **AAHAR Exhibition:** "AAHAR - The International Food & Hospitality Fair", is an annual event organised by India Trade Promotion Organisation (the premier trade promotion body of the Government of India). AAHAR 2016, Asia's biggest event in Food and hospitality sector, was organized at Pragati Maidan, New Delhi



during March 2016. One of the cluster member Mr. Dinesh Bharti (Director, Bharti Dairy Pvt. Ltd.) was the exhibitors at the exhibition. He got tremendous response from the visitors for their products. Members of Dairy Cluster participated in the event to understand the technological upgradation in packaging of dairy products. This has helped them understand the technological upgradation available in the dairy industry required at CFC.

- ▶ **Exhibition of Dairy Products & Aseptic Packaging:** An exhibition of dairy products and packaging techniques was held at Mumbai from 22.09.2016 to 24.09.2016. SPV members attended the exhibition. They interacted with foreign based manufactures of dairy processing & packaging machines. These machines are being used in India by many dairy processing units. Latest technology machines were witnessed that are used for producing dairy products and their packaging.



- ▶ **Meeting with Machinery manufacturers:** As per finding of DSR, the cluster members wish to upgrade their infrastructure, machinery and competitiveness. Lack of capital is their main hindrance to address these issues. Identification and installation of appropriate machinery at CFC shall act as an impetus for growth of whole cluster. A meeting was organized with leading machinery manufacturers to identify suitable technology & upgradation of machine. Various experts and machinery manufactures gave their presentation about machinery cost, technology, high production profile and other



necessary evidence. They assured about best service and maintenance for their machinery.

3. **Technical Trainings of Members:** The third major soft recommendation was around enhancing the knowledge of the entrepreneurs through technical trainings on various aspects of technology, quality and regulatory issues. The actions taken in this regard are detailed below:

- ▶ **Training on technology upgradations in Dairy industry.** This was organized by the SPV with support from MSME-DI, Karnal during July 2016. The training aimed at enhancing technological awareness of cluster units as well as guiding the participants on quality and product development to increase their competitiveness and market share.



- ▶ **Training on Dairy processing technology and packaging:** This was conducted in collaboration with NDRI, Karnal. The training aimed to sensitize the dairy processing units to understand the emerging processing techniques and packaging requirements of the dairy products. Members of Karnal dairy cluster conducted a visit to NDRI campus Karnal. Vice Chancellor Mr. A.K. Srivastava assured the members to extend support for technical guidance and suggested to attend seminars at NDRI. NDRI is leading institute in dairy technology for providing technical input for improving quality of dairy product and enhance product's shelf life.

- ▶ **Awareness/sensitization programme on Intellectual Property Right (IPR) by Ministry of MSME, Govt. of India during August 2016.** Ministry of MSME had launched series of programs for creating awareness on IPR. Member of Dairy Cluster, Karnal participated in the awareness program. Training aimed to create awareness about IPR, GI tagging and trademarks among cluster members. The units were encouraged to apply for IPRs to enhance their brand proposition.



► **Participation in Dairy Industry Conference 2016:**

The Indian Dairy Association (North Zone) had organised the 44th Dairy Industry Conference with the theme “Make in India: Dairying



2030” during February, 2016 at NDRI, Karnal. This was an extremely significant event which aimed at promoting “Make in India” concept in Dairy Industry. Participants representing academia, researchers, dairy professionals, policy makers, milk producers and farmers from across the country and abroad attended the conference. Members of Karnal dairy cluster also participated in the event that provided them thorough exposure to the opportunities in dairy industry.

4.2 Hard Interventions (Machines/Technology in the proposed CFC)

The Dairy units at Karnal need technological support to enhance their competitiveness, reduce their environmental impact and ensure their survival. The units are reeling under bitter competition margins and require modern high capacity automatic machines and other related equipment to get their job work done and reduce their costs of production. These hard interventions were validated by the cluster members in a validation meeting held at Karnal on 3rd July 2017. The minutes of the meeting along with list of participants and some pictures are provided in Annexure 9. The following common infrastructural facilities are being proposed to be set up with support from the state industry department and DCMSME:

1. Whey Drying Facility

Whey is the portion of milk left after cheese or casein is made. Whey is about 96% water but contains some valuable protein, lactose (milk sugar) and various dissolved minerals & vitamins. Whey powder is used to make food products and pharma products.

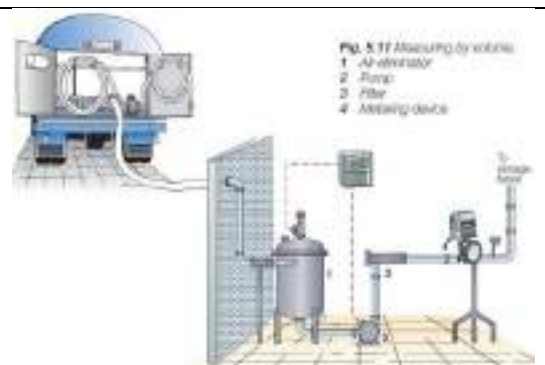
Presently, units at Karnal Dairy cluster are discharging the whey as there is no facility for whey processing in the cluster. This has impact on environment as well as income of these units. Throwing off whey is a big problem for septic systems and sewage disposal systems since it pollutes the entire watershed. In large commercial operations, this strip the oxygen off from water leading to death of other animals or dead watersheds. These units neither have whey processing facility nor CETP



facility to treat whey before releasing in sewerage. This has also led to increased water and air pollution in the operation locality.

Availability of whey processing and drying facility in Karnal dairy cluster shall provide these units an opportunity to use the whey and generate additional income for the products. Whey processing will also incentivize the units to collect and process whey and not throw it off. This will lead to positive impact on environment & health. Whey will be collected from the local units through tankers and will be brought to CFC for processing. CFC shall further process the whey and dry it to form whey powder using whey drying facility. Units will be required to pay user fee for the services offered by CFC. The user charges shall be decided by SPV taking into consideration the expenses involved for maintaining the facility.

Whey reception section: Whey shall be collected from dairy units and brought to the CFC in tankers. Emptying the tanker shall require the whey reception section at CFC. Reception section shall consist of air eliminator, pump, filter and Metering device.



Whey Pasteurization section: Whey shall be pasteurized before processing to reduce bacterial activity and increase shelf life. For short-time storage (< 8 hours), chilling to < 5 °C is usually sufficient to reduce bacterial activity. Longer periods of storage and utilization of the whey in high-quality infant formula and sports nutrition applications require pasteurization of the whey directly after the removal of fat and fines.



Crystallizer and Nano filtration plant: The first step in whey concentration involves increasing the dry matter from around 6 % to 18 - 25 % using RO (reverse osmosis) or a combination of RO-NF (Nano filtration).



Four effects falling film evaporating plant: Whey is further processed by the process of evaporation. After evaporation, the concentrate is flash cooled rapidly to 30 - 40 °C thus initiating nucleation of lactose crystals. This is further cooled and stirred in specially-designed crystallization tanks.



Three stage spray drying plant: Spray drying of whey, is at present, the most widely used method of drying. Before being dried, the whey concentrate is usually treated as mentioned above to form small lactose crystals, as this results in a non-hygroscopic product which does not go lumpy when it absorbs moisture.



CIP section: Circulatory cleaning-in-place (CIP) systems is used to the various parts of a processing plant to achieve good cleaning and sanitation results. Cleaning operations is one of the key requisites and to be performed strictly according to a carefully worked out procedure in order to attain the required degree of cleanliness.



2. Cream packaging facility

Cream is another widely used dairy product in the country. Presently, dairy industry is using tetra packaging for packaging cream. Tetra packaging facility is expensive and available to big players of dairy industry.

Cluster units at Karnal do not have cream packaging facility to increase the shelf life of cream and compete with other players. Cream is presently being sold in local packaging, which leads to reduced shelf life and poor quality of product.

Units of Karnal dairy require this facility to pack processed cream in PET bottles through proposed CFC. Cluster units will be required to bring their cream to CFC along with PET bottles and printed labels for packaging. CFC shall process the cream to sterilize and pack into PET bottles. Units will be required to pay user fee for the services offered by CFC. The user charges shall be decided by SPV as per the prevailing market rates. The user charges shall be decided by SPV taking into consideration the prevailing market rates.



Turn table: Turntables are used for empty and full bottle management in filling lines. The empty bottles pass through turn table to further processing like cleaning, filling etc.



Air jet cleaning with ionizer: Machine perform the cleaning of bottles before packaging cream into these PET bottles. Machine consists of SS Slat Conveyor, Nozzles, and indexing mechanism for synchronized with cleaning operations. Ionized air is expelled into the container and ionized bottles get free from static charges. Then bottle passes through air and vacuum nozzle in non-inverting position.



Automatic Screw Capping: After the bottles are filled with cream, the conveyer takes them to capping machine for sealing the bottles using screw caps. The machine picks the pre-sorted caps and safely place it on the bottles. The caps are screwed firmly on these PET bottles in an automatic manner.



Automatic induction sealing machine: Induction sealing also known as cap sealing, is a non-contact method of heating an inner seal to airtight seal the top of plastic containers. This sealing process takes place after the container has been filled and capped.



Automatic Cream filling machine: This machine is used to fill the cream in PET bottles. Treated bottles are passed through conveyer belt and machine fills the cream through nozzle driving system. Multi head machines increases the efficiency and capacity of production.



Full Water Immersion sterilizer -4 cage: The Water Immersion Process is the most widely accepted method of sterilizing product using an overpressure process. Overpressure is provided by introducing air (or steam) on top of the water. This sterilization process enhances the shelf life of packaged cream.



Pasteurization Tank, Fat melting Tank, Dairy Centrifugal Pump: Liquid cream is delivered in tankers, pasteurization tank helps maintaining the temperature of the stored cream to increase shelf life.

Fat melting tank is used for storage of cream at required temperature. The machine control temperature of cream using water in jacket layer. It also prevents the cream from separation by continuous stirring.

The centrifugal pump is the most commonly used pump in the dairy industry and is mainly used for low-viscosity products. It is being used to centrifuge & transfer the milk products.



3. Butter Chiplet packaging facility

Butter is one of the most consumed dairy product across india. Butter is sold in market as cubes wrapped in parchment paper and packed in small boxes. This packet is used at home and restaurants/eateries. further cut to make the cubes of desired size at home and eateries. Eateries have a different size requirement of butter packets in order to avoid cutting the butter cubes and minimize losses. Butter chiplet is the preferred option for these eateries due to their packaging size of 10-25 gm. Presently, butter chiplet is primarily packed and manufactured by big players of dairy industry.



Karnal dairy cluster has no such facility to manufacture butter chiplet and packaging technology. This has resulted into limited demand of their butter from these eateries, thus limiting their market expansion. The cluster also intends to replace parchment paper to aluminium foil for chiplet packaging, since aluminium foil offers better insulation than parchment paper and can also be recycled. Aluminium foil packaging also increases the shelf life of packaged butter. Butter chiplet packaging facility in the cluster shall create new market for these units.

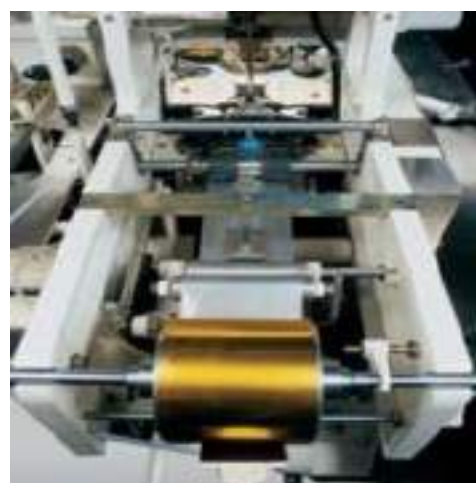
Cluster units will be required to bring their butter to CFC along with printed packaging foils. CFC shall further process the butter for making chiplets and pack in aluminium foils as per requirements and labeling of the units. Units will be required to pay user fee for the services offered by CFC. The user charges shall be decided by SPV taking into consideration the expenses involved in operating the facility.



There is significant presence of hospitality industry and eateries in Karnal district, which creates a great demand for butter chiplets. Individual units do not have required capital to install this machine on their own. Butter filling and wrapping facility at CFC shall enable these units to manufacture quality butter chiplets to ensure better quality of product and cater to the demand of these eateries.

1.1 Additional machine required

Label centering device: This device is required to keep the wrapping foil in place for proper wrapping of butter chiplets. Packaging material contains photo eye for centering of the label. This device reads the photo mark on the packaging material and cuts it accordingly so that the label is centered.



Siemens PLC touch screen: Touch screen PLC displays are used to control industrial tasks and processes. These touch screen displays are integrated with process controllers and offer a wide range of capabilities. Touch Screen PLC Benefits:

- ▶ Reduced development and integration time
- ▶ Customized and simple user interface for operators
- ▶ Sharp, clear displays which provide control over process variables



Hopper protection sensor: This is provided for giving control over the production process and also to ensure protection of the materials. Once the protection bar around the hopper is pushed down, it automatically stops the augers and brings the process to a halt.



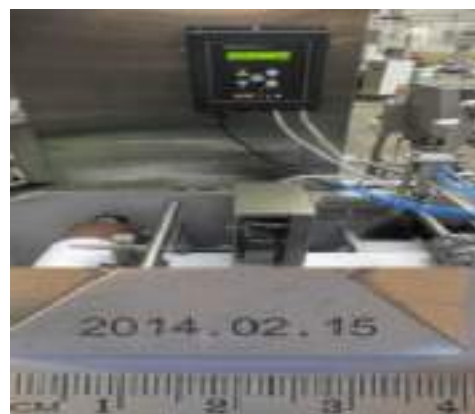
Hopper cover: Polycarbonate cover of hopper is used during running of machine for hygiene and protection.



Packaging material UV disinfection lamp: UV lamp disinfects the packaging material before filling of butter in the designated slots over wrapping cover.



Impress thermo printer: Impress thermos printer is used to print up to 3 lines, up to 12 symbols in one line. This is required to print the details of on the wrapping of butter chiplets.



4. In-house testing facility

Dairy industry is required to ensure food safety throughout the process of fluid milk collection, transportation, processing, and conversion to final products. Testing of products and inputs is one of the pre-requisites of dairy industry to ensure quality of products. There is no testing facility available in the cluster to test physical and chemical properties of raw material (milk, water) and finished products (dairy products) in the cluster. This has restricted the marketing of products which require thorough testing at each stage of processing.

Other important requirement for testing facilities is to measure the content of the products brought at CFC for processing. Weight of end products depend on proteins, sugar, fat content etc. present in the milk and other dairy products. Therefore, it is imperative to have a testing facility at dairy cluster to address these issues in operating CFC.

Testing facility at Karnal Dairy cluster shall enable the local units to increase product quality and expand their market. Units of the cluster will be required to bring their product samples to the testing lab at CFC. Testing facilities will also be available to units other than cluster units. Units will be required to pay user fee for the services offered by CFC. The user charges shall be decided by SPV taking into consideration the prevailing market rates.

4.3 Expected Outcome after Intervention

The project will be beneficial both for individual units and the cluster as a whole. The setting up of CFC is expected to generate the following benefits for the cluster units:

- ▶ Cluster products have an increased shelf-life, leading to better market positioning and enhanced value addition to meet market requirements
- ▶ Progressively tapping local industry demand for quality dairy products with improved manufacturing and packaging to increase competitiveness of cluster enterprises vis-à-vis medium and large sized enterprises

- ▶ Significant reduction in cost of production and higher capacity utilization by each unit to utilize the full capacity of CFC, other units shall also avail the facilities present at CFC
- ▶ The CFC shall generate more job opportunities both at the CFC and at individual units due to enhanced capacity utilization
- ▶ The CFC shall enhance the levels of co-operation and joint-action among cluster stakeholders and SPV members to co-operate in other areas such as joint marketing initiatives, common raw material procurement and so on
- ▶ Also, it will complement the efforts of state government in promoting clusters in the state and serve as a model for upgrading micro enterprise clusters.

The expected outcome after commissioning of CFC vis-a-vis the current situation is mentioned in table 10.

Table 10: Expected outcome of CFC

Area	Current Scenario	Expected Out Comes
Production Units	About 250 MSEs	About 350 SMEs
Markets	Mostly local retail shops and eateries situated in and around Karnal district	Hospitality industry, Pharma industry and Food processing MNCs
Employment	About 4200 direct employees	About 6000 direct employment
Technology	Lack of processing and packaging facility for dairy products, lack of whey drying facility and testing facility	Availability of CFC with advance facilities for processing and packaging facility for butter & cream and whey drying facility will drastically improve technological capacities of firms
Production	Small batch size Material wastage High processing costs Satisfactory Hygiene	Improved quality Bulk production No material wastage Quick production Competitive prices Excellent Hygiene Environmental protection
Exports	Current exports from cluster units are negligible	25% of units shall explore international markets and start exporting
Turn Over	About 650 crore	Increase of 10% each year and expected to double within 5 year
HACCP/FSSAI certification	18 units	300 units

5. Special Purpose Vehicle (SPV) for Project Implementation

The micro and small units at Karnal Dairy Cluster came together to form a Special Purpose Vehicle (SPV) as a private limited company under section 7 of the Companies Act, 2013 and rule 8 of the Companies (Incorporation) Rules, 2014. The SPV is named as '**Karnal Dairy CFC Private Limited**' with CIN being U74999HR2016PTC064562. The SPV was registered on 14th June 2016. The certificate of registration along with Memorandum of Association (MoA) and Articles of Association (AoA) are provided in **Annexure – 2 (a) & 2 (b)**. The company has an authorized paid up capital of Rs. 1.00 Lakhs which shall be enhanced in near future. The members are largely micro-sized firms (registered units) involved in Dairy related activities, predominately based in Karnal.

DIC, Karnal and MSME-DI both played an important role in SPV formation by cluster stakeholders. The SPV was incorporated in 2016 and already includes about 25 shareholders who are subscribing to the necessary equity base of the company. The SPV shall be open for new members to join and for the existing members to leave while maintaining a minimum member base of at least 20 at all times. The proposed CFC will be implemented on public-private partnership basis through SPV 'Karnal Dairy CFC Private Limited' by availing support from Government of Haryana (under EPP 2015) and Government of India (under MSE-CDP scheme of DCMSME).

The SPV members have a track record of cooperative initiatives. SPV members are also members of prominent cluster associations. Cluster members have independently undertaken several soft interventions to enhance knowledge and exposure of dairy plants to learn new technology in Dairy industry to enhance productivity of their units as mentioned in the previous sections. These include exposure visits to cluster development initiatives in other clusters, participation to trade fairs, registration under UAM and awareness programs on new trends in dairy industry, IPRs, packaging of products and new technologies. These programs were conducted in collaboration with DIC, MSME-DI and BDS providers such as National Dairy Research Institute (NDRI) and so on.

The SPV has conducted a series of stakeholder consultations (with various members, DIC, MSME-DI Karnal, NDRI and EY experts) during finalization of project components, selection of technologies and development of Detailed Project Report. The SPV has been instrumental in spreading the awareness about cluster development under MSE-CDP in Karnal and has also helped in validation of DPR. It has kept the state government and the MSME-DI Karnal engaged during the entire period of development of DPR.

5.1 Shareholder profile and Shareholding mix

List of Directors: The SPV has four directors drawn from its members. The details of the directors are furnished in table 11. The SPV shall further add two more directors among the shareholders. Other than these directors, the SPV will have provision of having one director each from state government (DIC) and centre government (DCMSME/MSME-DI). The SPV comprises members from micro and small Dairy manufacturing units. Units are homogeneous in nature in terms of products manufacturing and activities performed by the cluster units.

Table 11: List of Directors

Sl. No.	Director Name	Name of the unit	Address
1	Dinesh Bharti	Bharti Milk foods Pvt. Ltd.	H. No. 462, Bharti Villa, Kunjupura Road, Budha Khera, Karnal - 132001
2	Amit Garg	Goodrich carbohydrates Ltd.	H. No. 114, Sector 14, Urban Estate, Karnal - 132001
3	Shyam Sunder	Milan Ice Cream	Anaj Mandi Road, Behind Civil Hospital Indri
4	Sunil Batra	S.K Ice factory	Old Kaithal Road, Near Savitri Lawn, Karnal

The lead promoters/ shareholders have several years of successful experience in dairy processing and they are also well versed with the benefits of cluster developmental initiatives. These units are financially viable in nature. Post the DSR validation, the MSME DI also acknowledged the genuineness and enthusiasm of the SPV members to undertake project initiative under MSE-CDP.

Members and contribution to paid-up capital

Members of the SPV have been engaged in production of Dairy products at Karnal for more than 50 years. SPV directors/ members of the SPV also have considerable experience in marketing and manufacturing of Dairy products. Directors/members have been in close interactions with technical experts, government institutions and machinery suppliers.

The SPV was formed with an objective to take up cluster level activity in a joint and coordinated manner, wherein all units have equal say. Details of SPV members along with their contact persons, unit details, and UAM numbers are provided in table 12.

Table 12: Details of members of SPV

S. No	Name of Member	Name of Unit	Address of unit	Mobile number	Email	UAM details
1	Jitender Sharma	Hari Om Dairy & Ice-cream	Old Housing Board Colony, Karnal	98128-60726	jitendersathi82@gmail.com	HR10C000586
2	Amit Garg	Good Rich Nutriester	Village-Nagla, Meeruth Road, Karnal	94162-56547	amitgc@goodrichworld.com	HR10B000621
3	Dinesh Bharti	Bharti Milk food	Mughal Majra road, kunjpora, Karnal	94160-32004	bmf@bharties.com	HR10C000410
4	Sham Sunder	Milan Ice Cream	Anaj Mandi Road, Behind Civil Hospital Indri	94162-18471	shamsunder6165@gmail.com	HR10B000398
5	Subhash Chander	Ankit Dairy	Assandh Road, Panipat	98133-38243	fiberjoon777@gmail.com	HR10B000462
6	Balram Prop	Shiv Dairy	Old Grain Market, Main Bazar, Indri	94663-88493	shivdairy@gmail.com	HR10A000448
7	Baldev Kumar	Atri Dairy & IceCream	Main Market, KunjPura, Karnal	92551-26883	-	HR10A000671
8	Ram Avtar	Milan Sweets	Main bazar, Indri	7466580063	shamsunder6165@gmail.com	HR10A0001708
9	Rohit Gupta	Bhavya Intertrade	Village-Mirghain, Meeruth Road, Karnal	99927-00045	Rgupta@goodrichworld.com	HR10A0001790
10	Yogesh bharti	Bharti Dairy	Devi Mandir Road, Committee Chowk, Karnal	70277-30000	yogesh@Bhatiaes.com	HR10C000420
11	Sanjay Kumar	Simran Dairy	Moti Nagar, Karnal	89505-87750	-	HR10A000629
12	Ramesh Kumar	Ganesh Dairy	Bajaj Market, Ghadi birbal Road, Indri	94163-01004	ganeshdairy@gmail.com	HR10A000447
13	Gurnam Prop.	Gurnam Dairy	Sadar Bazar, Mochi Mohalla, Karnal	89303-77627	-	HR10A000463
14	Jasbeer Singh	Priyanshu Dairy	Mangal Colony, Nr Doon Valley, Karnal	96712-97837	-	HR10A000395
15	Jaspreet	Sehgal Dairy	Main Market, Ram Nagar, Karnal	92155-15773	preetjas18@gmail.com	HR10A0001693
16	Sunil Batra	S.K Ice factory	Old Kaithal Road, Near Savitri Lawn, Karnal	90179-95000	sunil.batra9@gmail.com	HR10B000655
17	Rohtash Prop.	Mandhan Dairy & Ice-cream	Karan Vihar, Gali NO. 14, Karnal	89303-77627	mandhandairy@gmail.com	HR10A000449
18	Surat Singh	Shiv Shakti Dairy	Near Prem Nagar School, Karnal	99964-28057	shivshaktidairy@gmail.com	HR10A000454
19	Rajat Gupta	Good Rich Biotech	SCO-12, 1st Floor, Namaste chowk Karnal	98969-56555	goodrich.malt@rediffmail.com	HR10A0002089
20	Dinesh Bhutani	Amrit Dairy	Tanga Stand, Railway Road, Karnal	94160-32750	dineshbhutani77@yahoo.com	HR10A000460
21	Harish Kumar	Vishal Dairy	2,Hansi Chowk, Karnal	97291-72872	-	HR10A0001709
22	Rajan Nanda	Manya Dairy	Meera ghati chowk, Karnal	98123-08953	rajan.nand1980@gmail.com	HR10A0001710

23	Gurnam Prop.	Gurnam Dairy	Sadar Bazar, Mochi Mohalla, Karnal	89303-77627	-	HR10A0000463
24	Amit Kumar	Raj Dairy	Buta singh market, Karnal	89504-76818	skilltechconsultancy@gmail.com	HR10A0001692
25	Meenakshi Khurana	Khurana Dairy	230 Sec-12 ,Karnal	9896204062	dinesh_2u@yahoo.com	HR10A0001817

The shareholding pattern of members of the registered SPV includes the contribution from every member of SPV and no individual shareholder holds more than 10 per cent equity stake in the capital of the company. Details of SPV shareholders along with shareholding percentage is provided in table 13.

Table 13: Shareholding Pattern

S. No.	Name of Shareholder	Name of Unit	Address of unit	Mobile No	Shareholding (in %)
1	Jitender Sharma	Hari Om Dairy & Icecream	Old Housing Board Colony, Karnal	98128-60726	10.0%
2	Amit Garg	Good Rich Nutriester.	Village-Nagla, Meeruth Road, Karnal	94162-56547	2.0%
3	Dinesh bharti	Bharti Milk food	Mughal Majra road, kunjpora, Karnal	94160-32004	10.0%
4	Sham Sunder	Milan Ice Cream	Anaj Mandi Road,Behind Civil Hospital Indri	94162-18471	2.0%
5	Sanjay Pal	Krishna Dairy	Main Bazaar, Budakhera, Karnal	94662-72285	10.0%
6	Subhash Chander	Ankit Dairy	Assandh Road, Panipat	98133-38243	2.5%
7	Balram Prop	Shiv Dairy	Old Grain Market, Main Bazar, Indri	94663-88493	2.0%
8	Baldev Kumar	Atri Dairy & IceCream	Main Market, KunjPura, Karnal	92551-26883	5.0%
9	Ram Avtar	Milan Sweets	Main bazar, Indri	74665-80063	2.0%
9	Rohit Gupta	Bhavya Intertrade	Village-Mirghain, Meeruth Road, Karnal	99927-00045	2.5%
10	Yogesh bharti	Bharti Dairy	Devi Mandir Road, Committee Chowk, Karnal	70277-30000	10.0%
11	Harinder Singh	Kamal Milk Foods	H.NO-3186 Sec-28D Chandigarh	98140-56426	5.0%
12	Sanjay Kumar	Simran Dairy	Moti Nagar, Karnal	89505-87750	0.5%
13	Ramesh Kumar	Ganesh Dairy	Bajaj Market, Ghadi birbal Road, Indri	94163-01004	2.5%
14	Gurnam Prop.	Gurnam Dairy	Sadar Bazar, Mochi Mohalla, Karnal	89303-77627	9.0%
15	Jasbeer Singh	Priyanshu Dairy	Mangal Colony, Nr Doon Valley, Karnal	96712-97837	0.3%
16	Jaspreet	Sehgal Dairy	Main Market, Ram Nagar, Karnal	92155-15773	0.5%

17	Sunil Batra	S.K Ice factory	Old Kaithal Road, Near Savitri Lawn, Karnal	90179-95000	2.5%
18	Rohtash Prop.	Mandhan Dairy & Icecream	Karan Vihar, Gali NO. 14, Karnal	89303-77627	0.3%
19	Surat Singh	Shiv Shakti Dairy	Near Prem Nagar School, Karnal	99964-28057	0.3%
20	Rajat Gupta	Good Rich Biotech	SCO-12, 1st Floor, Namste chowk Karnal	98969-56555	2.5%
21	Dinesh Bhutani	Amrit Dairy	Tanga Stand, Railway Road, Karnal	94160-32750	0.3%
22	Harish Kumar	Vishal Dairy	2, Hansi Chowk, Karnal	97291-72872	0.3%
23	Rajan Nanda	Manya Dairy	Meera ghati chowk, Karnal	98123-08953	5.0%
24	Amit Kumar	Raj Dairy	Buta singh market, Karnal	89504-76818	1.0%
25	Meenakshi Khurana	Khurana Dairy	230 Sec-12, Karnal	98962-04062	5.0%

5.2 Initiatives undertaken by the SPV

As mentioned in detail in section 4.1 (Soft interventions recommended and action taken), the SPV members have proactively undertaken a lot of capacity building initiatives to promote the cooperation among cluster units and enhance knowledge and exposure of the units. These initiatives have been undertaken in collaboration with DIC, MSME-DI, NDRI, KFPCL, IDA, EY etc. The major initiatives are:

- ▶ Pursuing initiatives in close coordination with MSME-DI and DIC, Karnal to facilitate understanding of cluster development, common procurement, marketing, available government support, latest technology for common facility etc.
- ▶ Exposure visits to trade fairs and machinery fairs for Dairy industries in NCR and large factories at other locations to understand the technology, market requirement and available opportunities.
- ▶ Conducting various programs for capacity building, awareness generation and technological advancement in the cluster as well as participation in similar programs organized by stakeholders.
- ▶ Identification of land for construction of CFC and collective acquisition of land in the name of SPV.
- ▶ The preparation of DSR was led by the SPV and the presentation of the DSR in the SLPSC was also done by the SPV members.

5.3 SPV Roles and Responsibilities

The SPV will play an important guiding role in the overall management and operations of the CFC. It will provide direction to the management of the CFC and will monitor usage and performance of the CFC. The SPV will constantly report to the state and the centre government about the performance of the CFC. The major roles and responsibilities that are envisaged to be performed by the SPV post the submission of this DPR are mentioned below:

- ▶ Coordinating with the state industry department and the MSME-DI for DPR approvals in the SLPSC
- ▶ Accompanying EY experts to various meetings at the state and center government departments
- ▶ Execution of land lease deed in SPV name
- ▶ Garnering the SPV project contribution from the members
- ▶ Assisting the EY team in providing inputs to the DCMSME technical committee, if required
- ▶ Formation of purchase committees for procurement of goods and services
- ▶ Establishing, operating and maintaining all common facilities as mentioned in the DPR
- ▶ Obtain any statutory approvals/clearances from various government departments
- ▶ Recruit appropriate professionals to ensure smooth execution of the CFC
- ▶ Collection of user charges from members and other users of the facilities as per the decided rates so as to meet the recurring expenses and future expansions of the CFC. While various estimates on user charges / service fee are presented in this DPR, all decisions including usage priority of facilities by members will be made on the basis of decision by members of SPV.
- ▶ Preparation and submission of progress reports to state industry department and DCMSME

The Memorandum and by-laws of the Cluster SPV indicates the democratic process in terms of decision making on the basis of votes. All members of SPV will meet once every fortnight/month to discuss/resolve operational issues. The management of the CFC will be a two tier structure for smooth and uninterrupted functioning. The executive body i.e. Board of Directors; will include office bearers elected/nominated from time to time including one nominee of State Government (DIC) and DC-MSME, they will also remain present during meetings.

While various estimates on user charges/service fee are presented in this DPR, all decisions including usage priority of facilities by members will be made by unanimous decision of the members. The CFC will seek direction and guidance from the SPV Board of Directors and the day to day administration will be taken care of by the management that shall be appointed by the SPV BoD. Their role is detailed below:

1. Board of Directors: The BoD will be the main governing body and will oversee the operations of the CFC. They will have the decision making power in terms of fixation of user fees (for members and

non-members) and usage of reserves etc. for future expansion. The Chairman and Managing Director will oversee the entire operations; each Director will be entrusted with specific responsibility like marketing, technical, finance, public relations etc. based on their interests and experience.

2. Managerial, Technical and Administrative staff: A competent and well qualified professional with background in Dairy industry will be appointed as the Chief Executive Officer (CEO), who will look after day to day operations of CFC and shall be directly reporting to the Board of Directors. Each facility will have its own technical staffs (supervisors, operations and helpers) as per the requirement. The details of manpower and other requirements are already mentioned in the DPR in the Project Economics section. There shall be provisions for administrative staff such as accounts personnel, marketing professional and store keepers etc. to ensure effective functioning of the CFC. The proposed organizational structure of the CFC is given in figure 15:

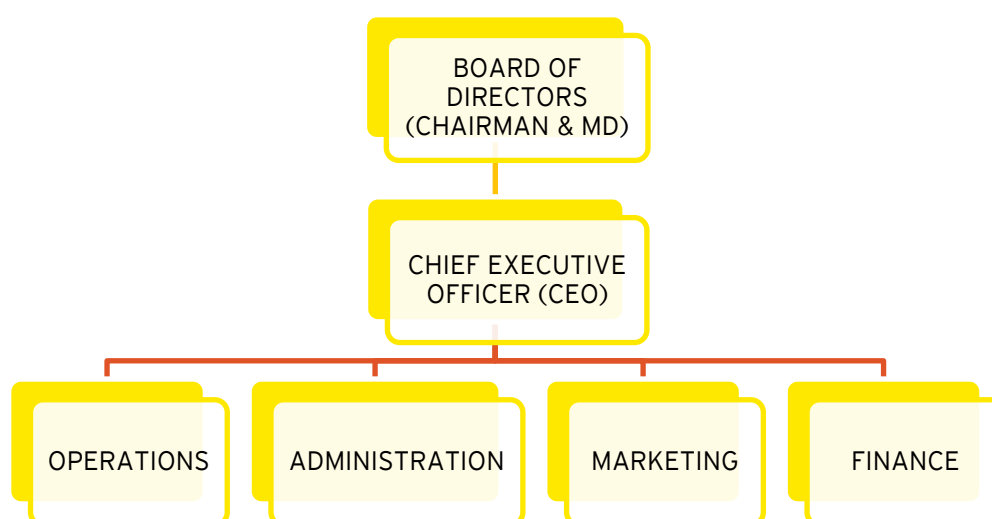


Figure 15: Organizational Structure of CFC

[illegible]

6. Project Economics

6.1 Project Cost and Means of Finance

6.1.1 Project Cost

The total project cost is estimated at Rs. 1,947.43 Lakhs (INR 19.47 crores). The project cost for setting up a CFC Karnal Dairy Cluster includes the following:

1. Land and site development
2. Building and civil works
3. Machinery and equipment
4. Miscellaneous fixed assets
5. Preliminary & Pre-operative expenses
6. Contingency
7. Margin money for working capital

The detail of each project component is provided below:

1. *Land and Building*

Land

The proposed CFC would require space for construction of buildings, pre-fabricated structure for installation of machinery and provision for stocking material. A lot of space also needs to be left open considering the industry FAR norms in the state. Considering the space requirements of the proposed facilities in the CFC and the FAR norms, it is estimated that a plot of about **49,590 sq. ft. (5510 square yards)** shall be required.

The cluster SPV has identified a plot of land at village - **Mugal Majra**, 8 kms away from the Karnal city. The land is in an industrial township with power availability developed by KFPCL. Many Dairy units are also coming up in that industrial estate. The land is appropriately located and only 10 kms away from the major existing industrial estate in Karnal.

SPV has identified a plot of 49,590 sq. ft. (5510 sq. yards), which shall be registered in the name of SPV. As per the Haryana Urban Development Authority (HUDA) Erection of Buildings Regulations, 1979, maximum permissible coverage on ground (built up area) is 60% of area of an industrial site. This shall allow an area of 29754 sq. ft. (3306 sq. yards) for CFC construction.

Cluster members are in the process of purchase of land from KFPCL and registration of land in the name of SPV. KFPCL has also agreed to sale and register the plot in the name of SPV. Land shall be registered in the name of SPV subsequent to in-principle approval of DPR by DC-MSME. The document

highlighting the same and establishing the proof for availability of land is provided in **Annexure 4**. The value for the land is estimated to be **Rs. 358.15 Lakhs**. The site development charges are estimated at Rs. 5 Lakhs.

Building

The built up area of the facility will comprise of two storied building with basement (a mix of RCC and pre-fabricated structure), resulting in **total covered area of 70081.25 sq. ft.** Indicative building layout plan is provided in **Annexure 5**. The total cost of construction of the building including partitioning and ceiling is estimated to **Rs. 200.44 Lakhs**. The building estimate duly certified is provided in **Annexure 6**. Hence, the total cost of land, site development as well as construction of building is estimated at Rs. 563.51 lakhs (see table 14).

Table 14: Requirement in terms of land and buildings

Particulars	Amount (INR in Lakhs)
Land of Rs. 358.15 Lakh and site development (@ Rs. 5 Lakh)	363.15
Building and civil works (shop-floor area of 70081.25 sq. ft.)	200.36
TOTAL	563.51

2. Plant and Machinery

As detailed in section 4.2 (Hard interventions), four major facilities including testing lab have been recommended to enable cluster units enhance their competitiveness. The machines have been categorized as primary and secondary. Primary machines shall be primarily used for job work, whereas the auxiliary/supporting machines for functioning of primary machines have been categorized as secondary machines. The facilities proposed at CFC are Butter chiplet packaging facility, Whey drying facility, Cream pasteurization/UHT bottle packaging facility and testing facility. The total cost of plant and machineries including taxes and installation has been estimated **at Rs. 1225.10 lakhs** and including electrification, plumbing and contingency works out to Rs. 1292.79 Lakhs.

The details of the proposed machinery items are presented in the table 15. The detailed specifications and quotations of the machines are provided in **Annexure 8**. The SPV has considered quotations for machinery from suppliers based on the manufacturer's reputation, service support, price and quality. However, an open online tendering system shall be followed for procurement of these machineries during project execution and selected vendors will be further invited to negotiate.

Table 15: List of proposed plant and machinery

S. No.	Machine Name	Quantity	Total	Indicative Supplier(s)
Primary Machines				
1	Whey drying facility			
1a	Whey reception section	1	49.34	YSM Biotech International
1b	Whey Pasteurization section	1	76.93	YSM Biotech International
1c	Crystallizer and Nano filtration plant	1	166.40	YSM Biotech International
1d	Four effects falling film evaporating plant	1	89.60	YSM Biotech International
1e	Three stage spray drying plant	1	186.88	YSM Biotech International
1f	CIP section	1	66.82	YSM Biotech International
2	Cream pasteurization/UHT bottle packaging facility			
2a	High pressure homogenizer	1	18.45	OEM Corporation
2b	Process equipment	1	18.45	OEM Corporation
2c	Turn table	1	1.85	OEM Corporation
2d	Air jet cleaning machine	1	7.38	OEM Corporation
2e	Automatic 4 head filling machine	1	12.30	OEM Corporation
2f	Automatic Screw capping	1	6.15	OEM Corporation
2g	Automatic induction sealing machine	1	12.30	OEM Corporation
2h	Air Compressor 15 HP	1	1.85	OEM Corporation
2i	Full Water Immersion sterilizer -4 cage	1	59.04	OEM Corporation
2j	Induced draft FRP cooling tower	1	0.86	OEM Corporation
3	Butter Chiplets Packaging facility			
3a	Butter/margarine filling and wrapping machine ARM 10-25g	1	80.88	FASA, Lithuania; IMA Dairy & food, Germany; Adamas, Ukraine
3b	Additional machines required: (Label Centring Device Siemens PLC touch screen Hopper Protection sensor Hopper cover, Packaging material UV disinfection lamp Impress Thermo Printer)	1	8.08	FASA, Lithuania; IMA Dairy & food, Germany; Adamas, Ukraine
4	Testing facility			
4a	Testing lab	1	32.60	BAAF Engineers (P) Ltd.
Secondary Machines				
1	Genset (500 kVa & 62 kVa each)	2	43.05	Sudhir, Cummins India Limited
2	Computer & Printers	5	4.42	Horizon Systems & Comm. Pvt. Ltd.

S. No.	Machine Name	Quantity	Total	Indicative Supplier(s)
3	Camera	50	7.32	Horizon Systems & Comm. Pvt. Ltd.
4	Transformers (1000 kVa)	1	17.98	Indian Transformers & Electricals , Gurgaon
5	VCB Panel	1	3.80	Indian Transformers & Electricals , Gurgaon
6	Air conditioners 1.5 ton	5	1.96	Sharma Refrigeration
7	Air conditioners 2 ton	2	0.99	Sharma Refrigeration
8	a) Combo freezer & chiller b) Whey Whey/Milk Plant 1.0 Lac LPD/5000 LPH cooling system	1	99.02	Controlled Atmospheric Technologies
9	ETP (1 lakh litre capacity) including structure	1	35.46	Green Paryavaran Solutions
10	Boilers (husk and agro based)	1	80.66	Chahal Boilers & Private Ltd.
11	LPT 407	1	11.53	Metro Motors Pvt. Ltd.
12	SFC 407	2	16.00	Metro Motors Pvt. Ltd.
13	Double Jacket 2100 Ltrs Tank	2	3.69	A-One Engineers
14	Double Jacket 4000 Ltrs Tank	1	3.08	A-One Engineers
	Total	124	1225.10	

3. Miscellaneous Fixed Assets

The CFC would also require other fixed assets such as furniture, fixtures, fire-fighting equipment and power backup etc. for smooth running of operations. The total estimated capital expenditure for purchase of these fixed assets is estimated to be Rs. 10.00 Lakhs. Details are provided in table 16.

Table 16: Miscellaneous fixed assets

Particulars	Amount (INR in Lakhs)
Office items and allied items, furniture, fixtures, firefighting equipment, first-aid equipment and back-up power supply etc.	10.00
Total	10.00

4. Preliminary and Pre-operative Expenses

Another major component of the project cost are the preliminary and pre-operative expenses. The preliminary expenses are envisaged as expenses incurred for registration of SPV, legal and administrative expenses, detailed civil engineering drawings with estimates, tendering forms, tendering cost and preparation of DSR & DPR of the cluster.

Pre-operative expenses include administrative establishment, stationery, overhead expenses during construction period including salaries, machine testing cost, bank charges, etc. It also includes the expenses for professional project management charges as consultancy fee. The PMC have been taken @1.45% of project cost. The total expenditure for preliminary and pre-operative expenses are estimated at Rs. 60.80 Lakh (table 17).

Table 17: Preliminary and pre-operative expenses

Sl. No.	Particulars		Amount Rs. in lakhs
1	PRELIMINARY EXPENSES	Company Registration	3.00
2		Civil engineering design with estimates	3.00
3		Tender forms & tendering cost	4.00
4		Project Report Preparation (DSR & DPR)	10.00
5	PRE-OPERATIVE EXPENSES	Project Management Charges (@1.45% of Project cost)	27.80
6		Telephone & Stationary items	2.00
7		Establishment & Travelling Cost	2.00
8		Overheads during Construction Period	4.00
9		Machine testing cost	5.00
	Total		60.80

5. Provision for Contingencies

As per the guidelines of MSE-CDP a provision for contingencies has to be made on plant/machinery and buildings. Contingencies estimated @2% on building and civil works (totalling Rs. 200.36 lakh) amounts to Rs. 4.01 lakh while contingencies on plant and machinery (totalling Rs. 1231.23 lakh) have been estimated as 5% that amounts to Rs. 61.56 lakh.

6. Margin Money for Working Capital

The total working capital requirement during the first year of operation at 80% capacity utilization is estimated at Rs. 65.28 lakh with margin money requirement of Rs. 16.32 Lakh (25% of working capital requirement as margin). The working capital requirement has been calculated based on requirement of one month of operational expenses and the calculation has been provided in the subsequent section.

7. Summary Project Cost:

A summary of total estimated project cost is presented in table 18.

The cost of plant and machinery including electrification, plumbing, installation and contingency works out to **Rs. 1292.79 Lakh** and constitute the major portion of the project cost.

Table 18: Project Cost

S. No.	Particulars	Total Project Cost (Rs. Lacs)
1	Land	
	a. Land cost	358.15
	b. Land Development	5.00
2	Building & Other Civil Works	200.36
3	Plants & Machinery	
	a. Indigenous	807.18
	b. Imports	88.97
	c. Secondary Machines	328.95
	d. Electrification expenses (0.5% of P&M cost)	6.13
4	Miscellaneous fixed assets (fixture, furniture, firefighting equipment, first aid equipment, backup power supply, etc.)	10.00
5	Preliminary Expenses (DSR, DPR, legal & administrative expenses, registration, civil engineering drawings with estimates & tender forms, telephone, stationery, etc)	20.00
6	Pre-Operative Expenses (establishment cost, travel, overheads during construction period including salaries, machine testing cost, PMC etc.)	40.80
7	Contingency	
	a. Building @ 2%	4.01
	b. Plant & Machinery @ 5%	61.56
8	Margin money for working capital (Working capital required @ 80% C.U.)	16.32
	Total	1947.43

The total project cost is estimated at Rs. 1947.43 Lakh.

6.1,2 Means of Finance

The project will be financed from three sources: equity from SPV, grant-in-aid from Govt. of India (under MSE-CDP) and grant-in-aid from Govt. of Haryana (under EPP 2015). Working capital loan will be secured from Corporation Bank/OBC. The assistance to the project from Govt. of India under MSE-CDP is envisaged to the tune of 70% of the project cost for project up to 1500.00 lakhs. As per EPP 2015 of Govt. of Haryana, it will contribute 20% of project cost for project up to Rs. 1500.00 lakh and 50% of project cost for project exceeding Rs. 1500.00 lakh up to Rs. 2000.00 lakhs. SPV will be required to contribute 10% of project cost for project cost up to Rs. 1500.00 lakh and 50% of project cost for project exceeding Rs. 1500.00 lakh. Table 19 summarizes the means of finance for the project:

Table 19: Means of Finance

S. No.	Source of finance	Project cost up to INR 1500.00 lacs		Project cost over INR 1500.00 lacs		Total Amount (INR in lacs)
		Percentage Contribution	Amount (INR in lacs)	Percentage Contribution	Amount (INR in lacs)	
1	Grant-in-aid under MSE-CDP (Govt. of India)	70	1050	0	0	1050.00
2	Grant-in-aid (Govt. of Haryana)	20	300	50	223.72	523.72
3	Contribution of SPV	10	150	50	223.72	373.72
	Total	100	1500	100	447.43	1947.43

1. Share Capital

The contribution of the SPV members will be the way of subscription to shares in the SPV registered as a Private Limited Company. The extent of paid-up share capital/equity contribution would be Rs. 373.72 lakh contributed by the cluster SPV.

The authorised share capital of the company is Rs. 1.00 lakhs at present which shall be increased in due course. The extent of share capital/equity contribution by each member will be restricted to a maximum of 10% of total contribution to the share capital of the company.

2. Grant-in-Aid

Grant-in-aid of Rs. 1050.00 lakh is expected from Government of India. The grant received under MSE-CDP will only be utilized to procure plant and machinery for the project. In addition, grant-in-aid of Rs. 523.73 is expected from Government of Haryana under EPP 2015. The grant received as per EPP (MSE-CDP) will be utilized to bridge the gap funding in plant & machinery and building for CFC.

6.2 Expenditure estimates

In this section, a detailed estimate of expenditure of the CFC has been conducted on eight hour single shift operation basis. This has been estimated based upon extensive inputs by the cluster members and the prevalent rates of consumables, utilities and manpower in the cluster. This section considers annual cost of undertaking job work and expenditure estimates. The critical components related to expenditure comprise consumables, manpower, electricity and also expenditure on repair and maintenance of assets, insurance and administrative overheads.

Other elements comprise expenditures by the way of interest toward working capital loans, miscellaneous expenses and non-cash depreciation expenditure.

1. Consumables

Machines installed at the CFC shall require consumables during operations and completion of the job work. Consumables are critical components of project facilities and may be understood in terms of grease, nozzles, pipes, testing chemicals and test tube etc.

The annual requirement of consumables is provided in table 20.

Table 20: Annual requirement of consumables

S. No.	Machine Name	Hours available daily	Particulars (consumables required for undertaking usage)	Amount (@ 80% C.U. in Rs. Lakh)	Amount (@ 85% C.U. in Rs. Lakh)	Amount (@ 100% C.U. in Rs. Lakh)
1	Whey drying facility 1a. Whey reception section 1b. Whey Pasteurization section 1c. Crystallizer and Nano filtration plant 1d. Four effects falling film evaporating plant 1e. Three stage spray drying plant 1f. CIP section	8	The machine will require consumables by way of Hydraulic oil, Spray, Grease & pipes @ Rs. 244.28 per hour	4.69	4.98	5.86
2	Cream packaging facility 2a. Turn table 2b. Air jet cleaning with ionizer 2c. Automatic 2 head filling machine 2d. Automatic Screw capping 2e. Automatic induction sealing machine 2f. Automatic Cream filling machine 2g. Full Water Immersion sterilizer -4 cage 2h. Hot water generator 2i. Air Compressor 15 HP 2j. Pasteurization Tank, Fat melting Tank, Dairy Centrifugal Pump 2k. Homogenizer - Harvest 115 2l. Cream chiller	8	The machine will require consumables by way of Hydraulic oil, Grease & pipes @ Rs. 55.41 per hour	1.06	1.13	1.33

S. No.	Machine Name	Hours available daily	Particulars (consumables required for undertaking usage)	Amount (@ 80% C.U. in Rs. Lakh)	Amount (@ 85% C.U. in Rs. Lakh)	Amount (@ 100% C.U. in Rs. Lakh)
3	Butter Chiplet Packaging facility 3a. Butter/margarine filling and wrapping machine ARM 10-25g 3b. Additional machines required: (Label Centring Device, Siemens PLC touch screen, Hopper Protection sensor, Hopper cover, Packaging material UV disinfection lamp, Impress Thermo Printer)	8	The machine will require consumables by way of Hydraulic oil, Grease & pipes @ Rs. 35.70 per hour	0.69	0.73	0.86
4	Testing Facilities	8	Average cost for testing sample @ Rs.13.03 per hour	0.25	0.27	0.31
5	Administrative Facility	NA	Stationery, office equipment related consumables @ Rs. 30000 per month	2.88	3.06	3.60
6	Computer & Printers	NA	For PCs and Software consumables include stationery, toner @ 10000 per month	0.96	1.02	1.20
	Total			10.53	11.19	13.16

2. Manpower Requirements

Another major expenditure head is manpower, Facilities installed at CFC will require manpower to function effectively as mentioned in section 5.3 of the report. The total manpower requirement for the project would be about 46 persons. The manpower required under project has been divided under two categories: Direct & Indirect. Direct manpower is required for operation of machines while indirect manpower is required for administrative purposes. The annual expenditure on salary component for direct manpower is estimated at Rs. 70.68 lakh and for indirect at Rs. 14.04 lakhs. The total expense on manpower is projected at Rs. 7.06 lakh per month or Rs. 84.72 lakh per annum

The details of monthly and yearly expenses for manpower required for running the project are provided in table 21 and 22.

Table 21: Expenditure related to salary (Direct manpower-machine operators and helpers)

Category	No. of Manpower Required	Details of Manpower Required	Salary per month per person (INR)	Total Salary per month (INR)	Total Annual salary (INR lakh)
Machine manpower requirement (Direct)					
1 Whey drying facility					
1a. Whey reception section	1	1 Main Operator	30000	30000	3.60
1b. Whey Pasteurization section					
1c. Crystallizer and NF plant	3	3 Asst. operator	12000	36000	4.32
1d. Four effects falling film evaporating plant					
1e. Three stage spray drying plant	10	10 Helper	11000	110000	13.20
1f. CIP section					
2 Cream packaging facility					
2a. Turn table	1	1 Main Operator	35000	35000	4.20
2b. Air jet cleaning with ionizer					
2c. Automatic 2 head filling machine					
2d. Automatic Screw capping					
2e. Automatic induction sealing machine	1	1 Asst. operator	12000	12000	1.44
2f. Automatic Cream filling machine					
2g. Full Water Immersion sterilizer - 4 cage					
2h. Hot water generator					
2i. Air Compressor 15 HP					
2j. Pasteurization Tank, Fat melting Tank, Dairy Centrifugal Pump	3	3 Helper	11000	33000	3.96
2k. Homogenizer - Harvest 115					
2l. Cream chiller					
3 Butter Chiplets Packaging facility					
3a. Butter/margarine filling and wrapping machine ARM 10-25g	1	1 Main Operator	35000	35000	4.20
3b. Additional machines required: (Label Centring Device, Siemens PLC touch screen, Hopper Protection sensor, Hopper cover, Packaging material UV disinfection lamp, Impress Thermo Printer)	3	3 Helper	11000	33000	3.96
Production In charge	1	1	40000	40000	4.80
Lab Technician (Quality Control)	1	1	25000	25000	3.00
Lab assistant	2	2	12500	25000	3.00
Boiler Operator	1	1	20000	20000	2.40
Boiler Attendant	2	2	11500	23000	2.76

Category	No. of Manpower Required	Details of Manpower Required	Salary per month per person (INR)	Total Salary per month (INR)	Total Annual salary (INR lakh)
Procurement & Dispatch In charge	1	1	17000	17000	2.04
HR Manager	1	1	25000	25000	3.00
Store Keeper	1	1	14000	14000	1.68
Electric Operator	1	1	15000	15000	1.80
Electric Assistant	1	1	12500	12500	1.50
Generator Operator	1	1	13500	13500	1.62
Generator Attendant	1	1	9500	9500	1.14
Helper (loading & unloading)	3	3	8500	25500	3.06
Sub total	40		3,81,000	5,89,000	70.68

Table 22: Expenditure related to salary (Indirect manpower-administrative and support staff)

S. No.	Category	No. of Manpower Required	Monthly Compensation (INR) per person	Total Salary per month (INR)	Total salary per annum (INR lakh)
Administration & Accounting (Indirect)					
1	CEO/Director	1	60000	60000	7.20
2	Accountant	1	15000	15000	1.80
3	Sweeper	1	9000	9000	1.08
4	Watchman	2	11500	23000	2.76
5	Pantry	1	10000	10000	1.20
	Sub Total	6	105500	117000	14.04
Total (Direct and Indirect)		46	4,86,500	7,06,000	84.72

3. Utilities

The most important utilities required by the project are power supply and water. Proposed CFC requires power for operation of machinery as well as other supporting equipment for smooth operations. The total connected load requirement has been estimated at **650 kW** including a buffer load of 10%. Table 23 depicts the machine and equipment wise power requirement in the CFC. The drawn power is conservatively assumed at 60% of the connected load in the case of operating facilities and shop floor.

Table 23: Machine & equipment (facility) wise power requirement

S. No.	Machine Name	Power Requirement (kW)/	Total power requirement (60% of drawn power) kWh
--------	--------------	-------------------------	--

		Connected Load	
1	Whey reception section	436	261.6
2	Whey Pasteurization section		
3	Crystallizer and Nano filtration plant		
4	Four effects falling film evaporating plant		
5	Three stage spray drying plant		
6	CIP section		
7	Turn table	0.37	0.2
8	Air jet cleaning	0.70	0.4
9	Automatic 4 head filling machine	0.70	0.4
10	Automatic Screw capping	1.11	0.7
11	Automatic induction sealing machine	0.37	0.2
12	Full Water Immersion sterilizer -4 cage	9.70	5.8
13	Air Compressor 15 HP	11.20	6.7
14	High pressure homogenizer	30.00	18.0
15	Butter/margarine filling and wrapping machine Additional machines required: (Label Centring Device, Siemens PLC touch screen Hopper Protection sensor, Hopper cover, Packaging material UV disinfection lamp, Impress Thermo Printer)	2	1.2
16	Induced draft FRP cooling tower	3.72	2.2
17	Process equipment	6.00	3.6
18	Cold room/Storage	37.50	22.5
19	Boiler (husk and agro based)	2.00	2.0
20	ETP (1 lakh litre capacity)	15.00	9.0
21	Testing lab in assistance with NDRI	15.00	9.0
22	Administrative facilities	20.00	12.0
Total Connected Load for the CFC		591.30	355.6
Buffer Connected Load (10% of Total Connected Load)		59.10	
Total Connected Load for the CFC		650.00*	

* Rounded off to the nearest value

The power requirement for operation of core machinery and equipment, testing lab and administrative facilities is 355.6 kWh. Electricity required for shop floor activities in terms of operation of core machinery and equipment is 591.30 kW. The facility is heavily based on electricity for operations and will also require additional 10% connected load as buffer to get the electricity connection. The total connected load for the CFC is estimated to be 650 kW.

Fix charges for connection of 650 kW @ Rs. 173 per kW = Rs. 1,12,450 and monthly consumption charge @ 355.6 kWh yields a consumption of 71,124 units which amounts to Rs. 6.40 lakh. This has been calculated based on the prevalent rates of the power charges.

Envisaged annual expenditure in terms of power related charges is represented in table 24.

Table 24: Annual expenditure statement vis-à-vis power charges

S. No.	Expenditure component	Particulars	Amount per annum (@ 100% C.U. in Rs. Lakh)	Amount per annum (@ 80% C.U. in Rs. Lakh)	Amount per annum (@ 85% C.U. in Rs. Lakh)
1	Fixed monthly connection charge (total connected load)	Shop-floor, support facilities & administrative (Rs. 1.12 Lakh per month)	13.49	13.49	13.49
2	Variable charges (as per consumption of units)	Shop-floor, support facilities & administrative (Rs. 6.40 Lakh per month)	76.81	61.45	65.29
	Total		90.31	74.95	78.79

Water supply is another utility required for operation of CFC. Water shall be primarily required for cooling of moulding machines installed at CFC and for consumption by manpower. The water requirement is envisaged at 7000 litre/day for consumption and washing purposes and 10,000 litres for machinery purposes. Water charges have been estimated at Rs. 15/KL. This amounts to a total consumption of approximately Rs. 0.60 lakh per annum. Expenses on sewage is also estimated to be approximately Rs. 0.60 lakh per annum. Hence, total cost of water and sewerage services is Rs. 1.20 lakh per annum.

4. Annual Repairs and Maintenance Expenses

The annual repairs and maintenance expenses have been estimated to be Rs. 38.56 lakh. The details are presented in the table 25:

Table 25: Annual repairs and maintenance expenditure

S. No.	Expenditure component	Particulars	Amount per annum (@ 100% C.U. in Rs. Lakh)	Amount per annum (@ 80% C.U. in Rs. Lakh)	Amount per annum (@ 85% C.U. in Rs. Lakh)
1	Repairs & maintenance	Building: repair & maintenance @ 2%	4.01	3.21	3.41
2		Plant & machinery: repair & maintenance @ 3%	34.55	27.64	29.37
	Total		38.56	30.85	32.78

5. Insurance and miscellaneous Administrative Expenses

Insurance shall be a critical component of asset protection at CFC. Insurance is computed on the basis of 0.5 per cent on the fixed assets. Cost of insurance shall vary with depreciation of asset and varies as per depreciated value calculated on the basis of WDV. Miscellaneous administrative expenses are estimated at a lump-sum of Rs. 6.00 lakh per year. The cost of miscellaneous expenses is considered to be fixed irrespective of scale of operation. The details are presented in the table 26:

Table 26: Insurance and miscellaneous administrative expenses

S. No.	Expenditure component	Particulars	Amount for 1 st year (in Rs. Lakh)	Amount for 2 nd year (in Rs. Lakh)	Amount for 3 rd year (in Rs. Lakh)
1	Insurance	Estimate @ 0.5% on fixed assets (such as buildings, civil works, and Plant & machinery, including related contingency expenses of approx. Rs. 1497.24 Lakh)	7.49	6.46	5.54
2	Miscellaneous administrative expenditure	Stationery, communication, travelling, and other misc. overheads	6.00	6.00	6.00
	Total		13.49	12.49	11.54

6.3 Working Capital Requirements

Working capital has been calculated in terms of one month's operating expenses required for the CFC. The operating expenses includes in form of consumables, salaries, utilities, repair & maintenance, insurance and miscellaneous administrative expenses. The details are presented in the table 27.

Table 27: Assessment of working capital

Sr. No.	Particulars	No. of Month	Annual Expenditure at installed capacity of 100% (in Rs. Lakh)	Annual Expenditure at installed capacity of 80% (in Rs. Lakh)	Annual Expenditure at installed capacity of 85% (in Rs. Lakh)
1	Consumables	1	1.10	0.88	0.93
2	Utilities (Power)	1	7.53	6.25	6.57
3	Utilities (Water)	1	0.10	0.10	0.10

4	Working Expenses (Manpower Expenses)	1	7.06	5.88	6.18
5	Bills Receivable (Sales Value)	1	65.22	52.18	55.44
	Working capital (Total expenses)		81.01	65.28	69.21
	Working Capital Margin (25%)		20.25	16.32	17.30

The working capital requirement of the project for the one month of operation has been considered for consumables and expenses. The SPV will contribute the margin money for working capital and rest of working capital will be borrowed from Oriental Bank of Commerce, Karnal (**Annexure 7**). While calculating the project cost 25% of working capital is shown as margin for working capital and the remaining will be borne by SPV as borrowings. The margin money required for working capital is estimated to Rs. 16.32 lakh during the first year of operation (80% C.U.). Further, total working capital required at an operating capacity of 85% comes out to Rs. 17.07 lakh. Oriental Bank of Commerce has agreed to finance working capital upon approval of project under MSE-CDP. The interest on bank loan (@11.0% per annum) amounts to Rs. 5.39 lakh at 80% capacity utilisation and Rs. 5.71 lakh at operating capacity of 85%. Computation of working capital and margin money requirement for 10 years is presented in table 28.

Table 28: Computation of Working Capital and Margin Money requirements

Sr. No.	Particulars	No. of Month/day	As per Capacity Utilisation									
			1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	6th Yr.	7th Yr.	8th Yr.	9th Yr.	10th Yr.
1	Consumables	1	0.88	0.93	0.93	0.93	1.04	1.04	1.04	1.10	1.10	1.10
2	Utilities (Power)	1	6.25	6.57	6.57	6.57	7.21	7.21	7.21	7.53	7.53	7.53
3	Utilities (Water)	1	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
4	Working Expenses (Manpower Expenses)	1	5.88	6.18	6.18	6.18	6.77	6.77	6.77	7.06	7.06	7.06
5	Bills Receivable (Sales Value)	1	52.18	55.44	55.44	55.44	61.96	61.96	61.96	65.22	65.22	65.22
6	Working capital (Total expenses)		65.28	69.21	69.21	69.21	77.08	77.08	77.08	81.01	81.01	81.01
7	Working Capital Margin		16.32	17.30	17.30	17.30	19.27	19.27	19.27	20.25	20.25	20.25
8	Working Capital Loan		48.96	51.91	51.91	51.91	57.81	57.81	57.81	60.76	60.76	60.76
9	Interest on Working capital loan @11% p.a.		5.39	5.71	5.71	5.71	6.36	6.36	6.36	6.68	6.68	6.68

6.4 Depreciation Estimates

Estimates of depreciation are non-cash expenditure and presented in this section on the basis of Written down Value (WDV) method as per Income Tax act. Accounting for depreciation would facilitate sustainability of operations in terms of developing a fund for replacement of assets. The surplus fund that is accumulated over the years could facilitate the replacement of such assets toward the end of the envisaged asset life of 10 years. Depreciation of building is considered at the rate of 10% per year, depreciation of plant and machinery at 15% a year and depreciation of miscellaneous fixed assets at the rate of 10% a year as per the WDV method. Depreciation based on Written down Value method (WDV) has been used for computation of net profit. The computation as per WDV method is provided in table 29.

Table 29: Depreciation employing WDV method¹⁷

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
Land	363.15	363.15	363.15	363.15	363.15	363.15	363.15	363.15	363.15	363.15
Building and Civil work										
Opening Balance¹⁸	204.37	183.93	165.54	148.98	134.09	120.68	108.61	97.75	87.97	79.18
Less: Depreciation @ 10%	20.44	18.39	16.55	14.90	13.41	12.07	10.86	9.77	8.80	7.92
Closing Balance	183.93	165.54	148.98	134.09	120.68	108.61	97.75	87.97	79.18	71.26
Machinery and Supporting equipment										
Opening Balance¹⁹	1292.79	1098.87	934.04	793.94	674.85	573.62	487.58	414.44	352.27	299.43
Less: Depreciation @ 15%	193.92	164.83	140.11	119.09	101.23	86.04	73.14	62.17	52.84	44.91
Closing Balance	1098.87	934.04	793.94	674.85	573.62	487.58	414.44	352.27	299.43	254.52
Misc. Fixed Assets										
Opening Balance²⁰	10.00	9.00	8.10	7.29	6.56	5.90	5.31	4.78	4.30	3.87
Less: Depreciation @ 10%	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39
Closing Balance	9.00	8.10	7.29	6.56	5.90	5.31	4.78	4.30	3.87	3.49
Total Depreciation	215.36	184.12	157.47	134.72	115.29	98.70	84.53	72.42	62.07	53.22
Depreciated value	1654.95	1470.83	1313.36	1178.64	1063.35	964.65	880.12	807.70	745.63	692.41

¹⁷ Amount in Rs. Lakh.¹⁸ Opening balance includes provision for contingencies¹⁹ Opening balance includes provision for contingencies²⁰ Opening balance includes provision for contingencies

6.5 Income/Revenue estimates

The CFC is expected to generate revenue by way of user charges that shall be levied based upon the hours a machine is operated for a particular job. The user charges shall vary based upon the user i.e. - the SPV members and non SPV members. The user charges will be less for the SPV members as compared to non-members. Firms based outside Karnal can also avail the facility at CFC based on availability and payment of charges. The major income sources for CFC are envisaged by the way of provisioning Butter chiplet packaging facility, Whey drying facility, Cream pasteurization/UHT bottle packaging facility and testing facilities.

The user charges have been estimated based upon the operational expenses of the CFC and the prevalent market rates in Karnal. User charges for supporting/ auxiliary machineries have not been considered as a part of revenue. Estimation of user charges for availing services at CFC has been done on a conservative basis for 10 years. The idea behind the CFC is not to make profits but to benefit cluster units enhance their competitiveness. The surplus generated will enable the CFC to meet the operational expenses and provision for replacement of assets toward the end of the envisaged asset life of 10 years. The relevance and appropriateness of user charges is also evident from the fact that the rates fixed help meet operating expenditures and provide sustainable replacement of assets. It is also envisaged that the CFC will generate enough income to sustain and grow, making it an absolutely viable project.

The estimated user charges for various machineries are presented in table 30.

Table 30: Projected annual income statement

S. No.	Facilities	User Charge Per Hour (In Rs.)	Hours available daily (single shift)	Amount (@ 80% C.U. in Rs. Lakh)	Amount (@ 85% C.U. in Rs. Lakh)	Amount (@ 100% C.U. in Rs. Lakh)
1	Whey drying facility 1a. Whey reception section 1b. Whey Pasteurization section 1c. Crystallizer and Nano filtration plant 1d. Four effects falling film evaporating plant 1e. Three stage spray drying plant 1f. CIP section	22865	8	439.01	466.45	548.76
2	Cream packaging facility 2a. Turn table 2b. Air jet cleaning with ionizer 2c. Automatic 2 head filling machine 2d. Automatic Screw capping 2e. Automatic induction sealing machine 2f. Automatic Cream filling machine 2g. Full Water Immersion sterilizer -4 cage 2h. Hot water generator 2i. Air Compressor 15 HP 2j. Pasteurization Tank, Fat melting Tank, 2k. Homogenizer - Harvest 115 2l. Cream chiller	5186	8	99.58	105.80	124.47
3	Butter Chiplet Packaging facility 3a. Butter/margarine filling and wrapping machine ARM 10-25g 3b. Additional machines required: (Label Centring Device, Siemens PLC touch screen, Hopper Protection sensor, Hopper cover, Packaging material UV disinfection lamp, Impress Thermo Printer)	3341	8	64.15	68.16	80.19
4	Testing Facilities	1220	8	23.41	24.88	29.27
	Total			626.15	665.29	782.69

Total gross revenue in-flow is estimated to Rs. 626.15 lakhs per annum on an operating capacity of 80%. For projection purposes, operating capacity of 80% is considered during first year, 85% during next three years, 95% from 5th year and 100% capacity from 8th year onwards.

6.6 Estimation of profitability: Income and Expenditure statement

The projections for income and expenditures of the CFC has been conducted for ten years. The projections have been undertaken based upon the income and expenditure heads mentioned in previous sections. The projected statements highlight income, expenses, profits earned, income tax and net profit etc. The details are presented in the table 31.

Table 31: Estimation of Profitability - Income & Expenditure Statement

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
Number of working days	300	300	300	300	300	300	300	300	300	300
Number of shift	1	1	1	1	1	1	1	1	1	1
Capacity Utilisation in %	80%	85%	85%	85%	95%	95%	95%	100%	100%	100%
A. Income (User/ Service Charge)	626.15	665.29	665.29	665.29	743.56	743.56	743.56	782.69	782.69	782.69
B. Cost of Production :										
1. Utilities Power (Fixed + Variable)	74.95	78.79	78.79	78.79	86.47	86.47	86.47	90.31	90.31	90.31
2. Utilities Water (Fixed consumption)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
3. Direct labour and wages	56.54	60.08	60.08	60.08	67.15	67.15	67.15	70.68	70.68	70.68
4. Consumable	10.53	11.19	11.19	11.19	12.50	12.50	12.50	13.16	13.16	13.16
5. Repair and Maintenance	30.85	32.78	32.78	32.78	36.63	36.63	36.63	38.56	38.56	38.56
6. Depreciation	215.36	184.12	157.47	134.72	115.29	98.70	84.53	72.42	62.07	53.22
Total Cost of production (B)	389.42	368.15	341.50	318.75	319.24	302.65	288.48	286.33	275.98	267.13
C. Administrative expenses :										
7. Manpower (Indirect)	14.04	14.04	14.04	14.04	14.04	14.04	14.04	14.04	14.04	14.04

Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
8. Insurance	7.49	6.46	5.54	4.75	4.08	3.50	3.01	2.58	2.22	1.91
9. Misc. Expense	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Total Administrative Expenses (C)	27.53	26.50	25.58	24.79	24.12	23.54	23.05	22.62	22.26	21.95
D. Financial expenses :										
10. Interest on Working capital loan @ 11% per annum	5.39	5.71	5.71	5.71	6.36	6.36	6.36	6.68	6.68	6.68
Total Financial Expenses (D)	5.39	5.71	5.71	5.71	6.36	6.36	6.36	6.68	6.68	6.68
E. Total Expenses (B+C+D)	422.33	400.36	372.79	349.25	349.72	332.55	317.89	315.64	304.93	295.77
F. Profit A - E	203.82	264.92	292.50	316.04	393.84	411.00	425.67	467.05	477.76	486.92
G. P & P Written Off	12.16	12.16	12.16	12.16	12.16	0.00	0.00	0.00	0.00	0.00
H. Income before Tax (F-G)	191.66	252.76	280.34	303.88	381.68	411.00	425.67	467.05	477.76	486.92
I. Income Tax (Provision @ 25.75%)	49.35	65.09	72.19	78.25	98.28	105.83	109.61	120.27	123.02	125.38
J. Net Profit for the year	142.30	187.68	208.15	225.63	283.40	305.17	316.06	346.79	354.74	361.54
K. Cumulative Surplus	142.30	329.98	538.13	763.76	1047.1	1352.3	1668.3	2015.1	2369.9	2731.46

Income tax implication is computed at the rate of 25.75 per cent i.e. 25 per cent plus education cess @ 3 per cent. The incidence of tax ranges from Rs. 49.35 Lakh per annum for year 1 to Rs. 125.38 lakh per annum in year 10. As evident from the table above, the project is financially viable. A cumulative surplus of about Rs.2731.46 Lakh shall be earned by the SPV even after accounting for taxation and depreciation at the end of ten years. This surplus generated shall be used for further addition in the machinery or improvement and up-gradation of facilities. Additionally, the SPV intends to conduct other development activities in the cluster that shall be funded through the surplus generated by CFC.

6.7 Projected Balance Sheets

The annual balance sheets for the CFC have been projected based upon estimates in the earlier sub-sections with regard to various current and fixed liabilities and also current and fixed assets. As evident from the projections, a considerable amount of reserves and surplus gets accumulated. These shall

also be utilized for expansion of CFC and undertaking other cluster developmental activities. Decision on deployment of reserves and surplus' accumulated will be based on the performance of the project and requirements of cluster firms and members of SPV. The projected balance sheets are as under Table 32).

Table 32: Projected Balance Sheets²¹

Particulars	At the end of impl. Period	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
A. Fixed Assets :											
Gross Block	1870.3	1870.3	1655.0	1470.8	1313.4	1178.6	1063.4	964.6	880.1	807.7	745.6
Less : Depreciation (WDV)		215.4	184.1	157.5	134.7	115.3	98.7	84.5	72.4	62.1	53.2
Net Block A	1870.3	1655.0	1470.8	1313.4	1178.6	1063.4	964.6	880.1	807.7	745.6	692.4
B. Current Assets :											
Cash and Bank Surplus		368.9	752.6	1130.4	1502.9	1911.2	2315.0	2715.6	3133.5	3550.4	3965.1
Debtors		52.2	55.4	55.4	55.4	62.0	62.0	62.0	65.2	65.2	65.2
Other Assets	16.3	14.0	14.0	14.0	14.0	15.9	15.9	15.9	16.9	16.9	16.9
Net Block B	16.3	435.1	822.0	1199.8	1572.3	1989.0	2392.9	2793.5	3215.7	3632.5	4047.2
C. P&P Expenses	60.8	48.6	36.5	24.3	12.2	-	-	-	-	-	-
Total Current Assets (A+B+C)	1947.4	2138.7	2329.3	2537.5	2763.1	3052.4	3357.6	3673.6	4023.4	4378.1	4739.6

²¹ Amount in Rs. lakh

Particulars	At the end of impl. Period	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
D. Current Liabilities :											
Working Capital Loan		49.0	51.9	51.9	51.9	57.8	57.8	57.8	60.8	60.8	60.8
Total Current liabilities	0.0	49.0	51.9	51.9	51.9	57.8	57.8	57.8	60.8	60.8	60.8
E. Fixed Liabilities											
Shareholders' Contribution	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7
Grant under MSE-CDP	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
Grant from GoH	523.7	523.7	523.7	523.7	523.7	523.7	523.7	523.7	523.7	523.7	523.7
Reserves and Surplus		142.3	330.0	538.1	763.8	1047.2	1352.3	1668.4	2015.2	2369.9	2731.5
Total Fixed Liabilities	1947.4	2089.7	2277.4	2485.6	2711.2	2994.6	3299.8	3615.8	3962.6	4317.3	4678.9
Total Liabilities (D+E)	1947.4	2138.7	2329.3	2537.5	2763.1	3052.4	3357.6	3673.6	4023.4	4378.1	4739.6

6.8 Cash flow statement

Cash flow statement indicates the cash balance and the liquidity position of the project over the years. Table 33 presents the sources and disposal/uses of funds statement of the project.

Table 33: Cash flow statement

Particulars	Construct ion Period	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
A. Source Funds :											
1. Cash Accruals (Net Profit + Interest paid)		209.2	270.6	298.2	321.7	400.2	417.4	432.0	473.7	484.4	493.6
2. Increase in capital	373.7	0.0	-	-	-	-	-	-	-	-	-
3. Depreciation		215.4	184.1	157.5	134.7	115.3	98.7	84.5	72.4	62.1	53.2
4. Increase in WC Loan		49.0	2.9	0.0	0.0	5.9	0.0	0.0	2.9	0.0	0.0
5. Increase in Grant-in-aid (GoH)	523.7	0.0								-	-
6. Increase in Grant-in-aid (MSE-CDP)	1050.0		-	-	-	-	-	-	-	-	-
Total Sources	1947.4	473.5	457.7	455.7	456.5	521.4	516.1	516.6	549.1	546.5	546.8
B. Use of Funds :											
1. P&P Expenses	60.8	-	-	-	-	-	-	-	-	-	-
2. Increase in fixed assets	1870.3	-	-	-	-	-	-	-	-	-	-
3. Decrease in TL	-	-		-	-	-	-	-	-	-	-
4. Decrease in working capital loan	-		-	-	-	-	-	-	-	-	-
5. Increase in Other Assets	16.3	-2.3	0.0	0.0	0.0	1.9	0.0	0.0	1.0	0.0	0.0
6. Increase in Debtors		52.2	3.3	0.0	0.0	6.5	0.0	0.0	3.3	0.0	0.0
7. Interest		5.4	5.7	5.7	5.7	6.4	6.4	6.4	6.7	6.7	6.7
8. Taxation		49.4	65.1	72.2	78.2	98.3	105.8	109.6	120.3	123.0	125.4
Total Use of Funds	1947.4	104.6	74.1	77.9	84.0	113.1	112.2	116.0	131.2	129.7	132.1
C. Net Surplus (A -B)		368.9	383.6	377.8	372.5	408.3	403.9	400.6	417.9	416.8	414.8
D. Cumulative Balance		368.9	752.6	1130.4	1502.9	1911.2	2315.0	2715.6	3133.5	3550.4	3965.1

The cash flow statement showcases the available net surplus for 10 years of the CFC operations. Depreciation is also considered under WDV method for cash flow calculations along with adjusted preliminary expenses. As most of the capital expenditure is being supported as grant under the MSE-CDP scheme and EPP 2015, therefore it does not have any negative effect on the Cash flow, in terms of interest, etc.

6.9 Break-even analysis

The break-even (BE) estimates of the project indicate the level of activity at which the total revenues of the project equals the total costs. From this point, a project is expected to start generating profits. As per the calculations, the CFC achieves break even in the third year itself as no major interest costs are being incurred. Hence, BE estimates at level of activity relevant to the first year and subsequent year of activity are provided in table 34.

Table 34: Break-even estimates

Particulars	Amount at operating capacity (80%)	Amount at operating capacity (85%)
A. Total Earning by way of user charges	626.15	665.29
B. Variable costs		
Consumables	10.53	11.19
Utilities (power- variable charge)	61.45	65.29
Interest on WC Loan	5.39	5.71
Repair & Maintenance	30.85	32.78
Utilities (Water) + Sewage	1.20	1.20
Manpower (Direct)	56.54	60.08
Total Variable Cost	165.96	176.24
C. Contribution (A-B)	460.19	489.04
D. Fixed Overheads (Cash)		
Manpower (Indirect)	14.04	14.04
Utilities (Power - fixed charges)	13.49	13.49
Insurance	7.49	6.46
Misc. Expenditure	6.00	6.00
Sub-total	41.02	41.02
F. Fixed Overheads (Non-cash)		
Depreciation	215.36	184.12
Preliminary & Pre-operative expenses written off	12.16	12.16
G. Total Fixed Overheads	268.54	236.28
Break-even point (G/C)	58.4%	48.3%

Book break-even is achieved at 58.4% of capacity utilization. The operation of the CFC is expected to realise profit from 1st year of operations while break-even is achieved at the end of 3rd year. Therefore, very low risk is involved in the project.

Moreover, the SPV members have the potential to run the facility for longer than one shift resulting in enhanced capacity utilization and generation of more revenues. In that case, project will break even earlier than estimated. Additionally, the approach has been to develop projections based upon conservative estimates (costs on a higher side and user charge/ revenues on a lower side) whereas, in real the revenues may be far higher.

6.10 Feasibility analysis summary and sustainability indicators

A summary of the financial analysis in terms of key financial indicators such as ROCE (Return on Capital Employed), Net Present Value (NPV), Break Even Point (BEP) and the Internal Rate of Return (IRR) is presented in table 35. The indicators validate the financial viability and sustainability potential of the proposed project.

Table 35: BEP, ROCE, NPV and IRR

S. No.	Particulars	Estimates
1	BEP (cash BEP at operating capacity of 80%)	58.4%
2	Av. ROCE (PAT/CE) sans Grant	14.03% (project unviable)
3	Av. ROCE (PAT/CE) with Grant	30.44%
4	Internal Rate of Return (IRR)	40.17%
5	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoI and GoH	NPV is positive and high (Rs.1469.14 lakh) at a conservative project life of 10 years
6	Payback period	3 Years with Grant-in-aid assistance from GoI
7	DSCR	Not Applicable (no term loan to be availed by the SPV)

The annual estimates in the context of ROCE estimation are presented in table 36:

Table 36: Annual estimates of ROCE

S. No.	Particulars	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year	6 th Year	7 th Year	8 th Year	9 th Year	10 th Year
1	ROCE (PAT/CE) in % without grant-in-aid	7.31	9.64	10.69	11.59	14.55	15.67	16.23	17.81	18.22	18.56
2	ROCE (PAT/CE) in % Adv. with grant from Gol	15.86	20.91	23.19	25.14	31.58	34.00	35.22	38.64	39.53	40.29

The average value of ROCE (with grant-in-aid) is 30.44%. This indicates the high techno-economic viability of the project on significant contribution from government of India as grant toward project cost. Capital employed are those essentials excluding the grant component to the project. Ignoring the possibility of grant assistance from the Gol, the ROCE works out to an unviable 14.03%.

NPV is positive and high indicating strong financials: Estimate at a discount rate of 10% = Rs. 2366.57 lakh (PV of cash inflow) - Rs. 897.43 lakh (PV of cash outflow) = Rs. 1469.14 lakh. This estimate incorporates the benefit of grant in effectively reducing outflow.

The Net Present Value is estimated at a discount rate of 10%. However, as reflected from the high values of NPV, it is positive at even 11%, the rate at which bank offers debt capital facility and even at higher discount rates. Project IRR is high at over 40.17% (at a conservative project life of 10 years). This substantiates the viability of the project.

6.11 Additional revenue sources

Additional sources of revenue shall also be explored by the SPV by offering procurement and marketing services in future to more enterprises. The SPV members are strong believers of the cluster concept and would like to explore potential of undertaking cluster initiatives to improve the backward and forward linkages of the cluster units.

However, in order to ensure conservativeness in income estimates, in the initial years, the income earning possibilities of such revenues are not captured in this DPR.

6.12 Risk analysis & Sensitivities

Risk in the project is relatively low in the context of the following:

- ▶ **Promoters are experienced:** Risk in the project is quite low given the strength and profile of the SPV members. They have considerable experience not only in the Dairy industry but also of undertaking cluster developmental initiatives.
- ▶ **Facility is pre-marketed:** Evidently, complete capacity of the core facility to be established in terms of various facilities may be easily availed of by members of the SPV themselves, thus the facility already have a captive market.
- ▶ **Sustainability indicators in terms of the strength of the SPV and the economics of the project:** Evidence of cooperative initiatives of SPV members as articulated in previous chapters; for instance, in terms of pursuing several joint efforts, registering the SPV and proceeding towards procurement of land, and securing commitment from members, vis-à-vis progressively mobilizing necessary paid up capital, all reflect the strength of the SPV.

High economic viability indicators upon considering the benefits of grant-in-aid under the MSE-CDP and EPP 2015 also serve as evidence of techno-economic viability and sustainability of the project. A sensitivity analysis has been carried out to ascertain the impact on the project should there be any loss of revenue. This has been calculated assuming drop in user charges. Major financial parameters are still attractive. The important parameters related to the sensitivity analysis are presented in table 37.

Table 37: Sensitivities vis-à-vis ROCE and project payback period

S. No.	Particulars	Base case	With 5% decline in user charge	With 10% decline in user charge	With 15% decline in user charge
1	BEP (cash BEP at operating capacity of 80%)	58.40	62.60	67.50	73.20
2	Av. ROCE (PAT/CE)	30.44%	28%	24.56%	21.61%
3	Internal Rate of Return (IRR)	40.17%	37.29%	34.36%	31.36%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoI and GoH	1469.14	1309.96	1150.78	991.59

Even assuming a fall in user charge, ROCE is favourable. From the above it is evident that the project is very viable even under (unlikely) risky environment circumstances.

6.13 Assumptions for financial calculations

The financial statements and project profitability estimates in this DPR are based on the following assumptions:

1. The total project cost is pegged @ Rs. 1947.43 Lacs on the basis of estimates and quotations.
2. To finance the project, a total of Rs.1947.43 Lacs is required. The financing will consist of grant from central government, government to Haryana and contribution by SPV.
3. In the financial projections and analysis, year 2018 is the envisaged period of project implementation also involving construction of buildings and installation of plant, machinery and other equipment. This period will commence from the date of final approval by DCMSME under MSE-CDP. The financial projections thereafter are prepared for 10 years of operation starting 2019.
4. The Registered SPV will manage CFC, and these services are to be used by the SPV to member as well as non-member units. The common facility will benefit registered SPV as well as non-member firms who (in some cases) may not afford to contribute to necessary equity capital.
5. The CFC will operate for 25 days a month, that is, for 300 days a year on an eight hour single-shift basis. Operation on single shift basis is assumed for purposes of projecting income estimates.
6. Capacity utilization is assumed at 80% in the first year; 85% for second & third year and 100% thereafter. This is a conservative estimate for first 3 years as SPV members alone could avail of over 100 per cent of the installed capacity on single-shift basis.
7. The workings with regard to expenses related to the project have been tabulated and categorized in terms of those related to consumables, manpower, electricity, and miscellaneous administrative expenditures.
8. Repairs and maintenance is provided @ 2% of building cost and @ 3% of plant and machinery cost at varying capacity utilization.
9. Insurance is provided @ 0.5% on fixed assets including building & civil works, machinery, contingency as fixed cost at all capacity utilization.
10. Fixed charges per kW of electric connection shall be charged @ Rs. 173 and variable charges @ Rs. 9 per unit consumed.
11. Income estimates have been projected most conservatively. The prescribed user charges are competitive vis-à-vis charges for similar services in other regions.

12. Depreciation on fixed assets is calculated on Written down value (WDV) Method as per Income Tax Act.
13. Provision for income tax has been made @ 25.75% including surcharge. This is the rate prescribed for Private Limited Companies as per the recent Budget 2017.
14. Profitability estimates in terms of ROCE, NPV, and IRR are computed considering operating results for first 10 years of operation.

7. Project Implementation and Monitoring

7.1 Envisaged Implementation Framework

I. Time frame: Project implementation is envisaged to involve a time-frame of about 12 months upon receipt of final approval of grant-in-aid assistance from the Government of India under MSE-CDP.

II. User Base: The facilities may be used SPV members and non-members. However, the charges will vary. The SPV will also be open for new entrants subject to them subscribing to the shareholding of the SPV, and them being genuinely pro-active and interested in cluster initiatives. The BoD of SPV shall decide on same or differential user charges for both members and non-members or based upon the volume of the output.

III. Project implementation schedule: The project implementation schedule envisaged over a period of 12 months involves several activities. They are elaborated upon in the table 38.

Table 38: Project Implementation Schedule

Activity/Month	1	2	3	4	5	6	7	8	9	10	11	12
Collecting Contribution from SPV members												
Transfer of land in the name of SPV												
Receipt of final sanction from Govt												
Preparation of detailed drawings												
Formation of purchase committee												
Inviting E tenders for building construction and purchase of machines												
Construction of facilities												
Obtaining statutory clearances and approvals												

Purchase of machinery and equipment												
Installation and trial run of machinery and equipment												
Arrangement of working capital												
Monitoring of the project by BoD												
Monitoring of the project by PMC												
Commencement of operations of the facility												

As indicated in the table above, the facility is expected to be operational in 12 months' time.

IV. Contractual agreements/MoU with member units: Agreements have been indicatively finalized in terms of utilisation of assets in respect of shareholders.

A total of 27 units are participating in the SPV and all these units have agreed to contribute towards the SPV share of the project cost. The utilization of common facility will be in line with the proposed shareholding pattern. The consent letter wherein the member units agree for payments of 10% share of cost of CFC as member of SPV is under process and will be submitted in due course of time and as per in-principal approval from DCMSME.

V. Memorandum and By-Law of Registered Company: MOA, AOA and bye laws are indicative of the management and decision making structure of the SPV. All the members of SPV have paid an advance and are members of the Registered Private Entity. Few other units are also willing to be members of the SPV and once the CFC is approved and sanctioned from GoI, many more members will be interested to subscribe to the shares of the SPV.

VI. Availability of Land & Status of Acquisitions: Land is being procured by the SPV for the proposed CFC at Mogul Majra in Karnal district. A plot of land has already been identified by the SPV.

VII. Availability of Requisite Clearances: SPV is in the process of procuring land with all required clearances. Electricity is already available in the area and the proposed CFC can easily be connected to the grid. The other required clearances (environment, labour etc.) shall be obtained in due course.

VIII. O & M Plan: The revenue stream for O&M is dependent on realization of user charges from the SPV members and other users/MSMEs in the case of various facilities. As detailed in the financial section, the cash incomes are sufficient to meet operating expenditures, overheads as well as depreciation for sustainable replacement of assets. The SPV will also have to keep a track of maintenance of assets through collection of user charges from the members/ users.

7.2 Monitoring Mechanism

As mentioned in the implementation schedule, the following key activities shall be conducted during establishment of the CFC:

- ▶ Civil Alterations
- ▶ Electrical works
- ▶ Purchase of machinery & commissioning
- ▶ Trial production
- ▶ Commercial production

The successful implementation of above activities will depend on the following aspects:

- ▶ Implementation of above within the time frame
- ▶ Supervising and overseeing the implementation of the proposals and fine tuning and advocating more measures, if needed depending on the site conditions
- ▶ Project level monitoring indicators to evaluate the implementation of the CFC proposal at recommended intervals
- ▶ Suitable purchase mechanisms for proposed plant & Machinery Periodical reporting of the status of implementation and monitoring of the results of key performance indicators, and
- ▶ Constant evaluation of the measures implemented based on the data available from project level monitoring and status reports and providing directions accordingly.

It is proposed to constitute a governance mechanism in the form of a **Cluster Development Co-ordination Committee (CDCC) under the chairmanship of Director of Industries, Government of Haryana** to oversee all cluster development projects in Haryana under MSE-CDP. The CDCC can also look after the project under Mini Cluster Scheme to be implemented under the state's Enterprise Promotion Policy 2015.

The committee may operate under the overall monitoring of the State Level Project Steering Committee (SLPSC). Other key stakeholders such as representatives of cluster SPV, related government departments, support institutions, cluster level industry associations and EY consultants may be inducted as members under the committee.

The members may comprise the following:

- ▶ Director, Industries and Commerce, Government of Haryana (Chairman)
- ▶ Concerned Joint Director, Department of Industries and Commerce
- ▶ Director, MSME-DI Karnal
- ▶ HSIIDC state officer
- ▶ SIDBI general Manager
- ▶ President of related industry association
- ▶ Directors of related SPV
- ▶ EY Cluster Development Expert under MSME project

The meeting of CDCC may be held on quarterly basis to review performance of the clusters. The CDCC will guide monitoring and implementation of the project.

In addition, for implementing the Karnal Dairy Cluster CFC project, a Project Management Committee (PMC) comprising the GM, DIC, Karnal, and representatives of SPV, Oriental Bank of Commerce, NDRI and EY experts shall be constituted to directly oversee effective monitoring and implementation.

The project will be implemented through SPV and PMC will report progress of implementation to the CDCC as well as State Level Project Steering Committee and DC-MSME.

8. Conclusion

As of 2016, India ranked 1st in the world in terms of milk production. The size of Indian dairy industry in both organised and unorganised sectors is expected to double to \$140 billion by 2020, at the back of growing demand and rising disposable incomes. The dairy industry is growing at a compounded annual growth rate (CAGR) of 15-17%, while the value-added products alone are growing at 24%. Many companies are investing in the product innovation and trying for newer technologies that can make the units more cost competitive, while offering a better product.

On the other hand micro and small dairy units of Karnal are heavily dependent on manual, low capacity and obsolete technologies for production and are barely surviving the intense competition from large firms. Moreover, the dairy sector also require high quality packaging for increased shelf life. The micro units do not have these machines and hence losing market share to bigger players. Further, dairy processing industry has also to take care of waste water treatment and whey discharge to check the environmental pollution. Government has been imposing very strict rules and regulations for the effluent discharge to protect the environment. Hence it is important to carry out whey processing using modern machines. These units are also willing to take measures to protect the environment.

In order to sustain these industries, it is imperative to identify the common challenges and opportunities. Cluster development shall enable these units to access newer technologies through CFC that can make the units more cost competitive, while offering a better product. The CFC shall provide a win-win situation to all the people involved - consumers (in terms of better quality products), producers (in terms of profit generation) and society (in terms of generating employment, providing adequate & nutritional food and environmental protection).

The potential for Karnal Dairy cluster to grow is enormous. There is an increasing demand of processed dairy products across the country. Increased consumption of dairy products in urban areas has also fuelled the demand of processed dairy products. Karnal also has availability of good quality fresh milk at economic prices along with well-established milk collection channel to ensure availability of sufficient milk for processing. The only constraint is the lack of technologies and related infrastructure which can be addressed by setting up a CFC. The technologies required for upgradation are extremely expensive and the same cannot be adopted by any individual units in the cluster. Hence, the following facilities have been proposed in the CFC:

- ▶ Whey drying facility
- ▶ Cream packaging facility
- ▶ Butter Chiplet packaging facility

▶ Testing lab

The total project cost (including plant/machinery and buildings) is estimated to be **INR 19.47 crores**. The project shall be implemented by the SPV 'Karnal Dairy CFC Private Limited' which has been constituted by the cluster firms. The SPV has proactively undertaken a number of initiatives and have acted upon the proposed soft interventions in the DSR. A number of capacity building programs and exposure visits have been organised by the SPV for the benefit for its members.

The CFC will be set up with support from DCMSME and the state government (Department of Industries) under a PPP mode. The land for the project has already been identified by the SPV and shall be acquired immediately upon in principle approval by DCMSME. The central government and the state industry department is envisaged to provide grant for setting up of the modern machines under the MSE-CDP scheme and the EPP 2015. The SPV members have proposed to contribute 19.2% of the project cost. The total contribution of SPV members will amount to Rs. 373.72 lakh. Support from MSE-CDP of the DC-MSME is envisaged for Rs. 1050.00 lakh (53.91%). And from the GoH is Rs. 523.72 lakh (26.89%). Working capital requirement for the project will be provided by Oriental Bank of Commerce. The project is financially viable and is expected to generate enough revenue to ensure its sustainability.

9. Annexures

Annexure 1: Minutes of State Level Project Steering Committee

From
The Director of Industries & Commerce, Haryana.

To

1. Managing Director, HSIDC
E-mail:- mdhsidchry@gmail.com.
2. Special Secretary, Finance Department, Haryana.
e-mail:- asse-fry@nic.in
3. Director, MSME Development Institute, Karnal
MSME Development Institute, 11-A,
Industrial Development Colony, Near ITI, Kunjpura Road,
Karnal-132001, Haryana.
E-mail:- gm@karnal@dicmsme.gov.in.
4. Joint Director, DIC, Karnal
E-mail:- gm@karnal@yashoo.in
6. Sh. Sagmal Takshak,
Joint Director, DIC, Karnal.
7. Sh. R.K. Rana,
Joint Director, DIC, Panipat.
8. Sh. Sandeep Aggarwal, Assistant Director,
MSME, Development Institute, 11-A,
Industrial Development Colony, Near ITI, Kunjpura Road,
Karnal-132001, Haryana.
9. Sh. Deepak Sharma, Consultant,
M/s Access Consultancy Services,
952, Sector-2, Panchkula.

Memo No. Kc/Cluster/MSE-CDP/2016-17/ 13954-14
Dated:- 21/10/16

Subject:- Minutes of the 1st Meeting of State Level Project Steering Committee held on 06.10.2016 under the Chairmanship of Sh. Devender Singh, IAS, Principal Secretary to Government of Haryana, Industries & Commerce Department at knowledge Centre, 9th Floor, Haryana Civil Secretariat, Chandigarh for approval of DSRs/DPRs under MSE-CDP scheme of MoMSME, Government of India.

Kindly refer to the subject cited above.

Please find enclosed herewith a copy of Minutes of the 1st State Level Project Steering Committee Meeting held on 06.10.2016 under the Chairmanship of Principal Secretary, Industries & Commerce for approval of DSRs/DPRs under MSE-CDP scheme of MoMSME, Government of India for information & taking further necessary action.

Encl: As above.


d/c for Director of Industries & Commerce, Haryana.

R.C. (Dahra)
Consultant (Cluster)

Endst. No. KC/Cluster/MSE-CDP/Review Status/ 139554 Dated: 21/11/16

A copy of the above alongwith enclosure is forwarded to the following for information:-

1. PS to The Development Commissioner Ministry of Micro, Small & Medium Enterprises, Govt. of India, Mirman Bhawan 7th floor, Mullana Azaad Road, New Delhi-110108 for kind information of DC, MSME.
2. PS to PSI for kind information of PSI.
3. PS to DI & C. for kind information of DI&C.
4. M/s Karnal Plastic CFC Pvt. Ltd. Agro Park, Plot No. 52, Block-C, Mugal Majra Road, Karnal for kind information.
5. M/s Karnal Signage CFC Pvt. Ltd. Agro Park, Plot No. 8-9, Block-C, Mugal Majra Road, Karnal for kind information.
6. M/s Karnal Dairy CFC Pvt. Ltd. Agro Park, Plot No. 35, Block-C, Mugal Majra Road, Karnal for kind information.
7. M/s Textile Printing Cluster Panipat Plot No. 13, Sector-29, P-II, HUDA, Panipat.
8. M/s Electro Plating Cluster, Small Scale Pollution Control Co-op. Society, Faridabad.


R.C. Dahra
Consultant (Cluster)
d/c for Director of Industries & Commerce, Haryana

minutes of the meeting held on 06.10.2016 at 12.30 PM under the Chairmanship of Sh. Devender Singh, IAS, Principal Secretary to Government of Haryana, Industries & Commerce Department at Knowledge Center, 9th Floor, Haryana Civil Secretariat, Chandigarh for approval of DSRs/DPIs under MSE-CDP scheme of MoMSME, Government of India.

The following officers were present:-

S.N o.	Name of the Officers	Designation
1.	Sh. Sudhir Rajpal	Managing Director, HSHDC
2.	Sh. Wazeer Singh Goyal	Director of Industries & Commerce
3.	Sh. Bagmal Takshak	JD, DIC, Karnal
4.	Sh. R.K. Rana	JD, DIC, Panipat
5.	Sh. Sandeep Agarwal	Asstt. Director,
6.	Sh. Arun Rishi	Dy. Secretary, Finance
7.	Sh. Deepak Sharma	Principal Consultant, M/s Access Consultancy.

The detail of representatives of the various clusters who attended the meeting is annexed as Appendix 'A'.

Sh. R.C. Dahra, Consultant O/o Director of Industries & Commerce welcomed all the members of the first State Level Project Steering Committee. Initiating the discussions, he briefed the members about the modifications made in the guidelines of Micro & Small Enterprises-Cluster Development Programme (MSE-CDP) of Government of India. After introduction of the members and other representatives, the agenda of the meeting was taken up as under:-

1.1 DSR in case of M/s Karnal Plastic CFC Pvt. Ltd.

The consultant informed the committee that M/s Karnal Plastic CFC Pvt. Ltd. has submitted Diagnostic Study Report duly validated in the stakeholders meeting held on 15.09.2016. It was also informed by him that the proposal duly verified and recommended to conduct DSR was received through Joint Director, DIC, Karnal.

Sh. Viney Taneja, representative of the Cluster gave power point presentation on the DSR. He informed that there were approximately 60 units in the cluster manufacturing various plastic products like plastic coated foils for pharma sector, pet bottles and buckets for paint & chemical industry, plastic bags for rice millers etc. with a total turnover of Rs. 250 crores. He further informed that the cluster provided direct employment to more than 1300 persons. He informed that scope of their business was changing day by day and new requirements of products like double side plastic coated foils and multi layer

plastic packaging was coming up. The main constraint of the cluster are lack of automation of various processes and there is a need of installation of various machinery items like pet pre-form making machine, multilayer plastic layer packaging, blow moulding machine. The existing units in the cluster are facing problems due to demand of various products manufactured from these types of machinery by the corporate houses. The cluster is unable to cater the needs of multi-national companies(MNCs).

After detailed deliberations, the committee decided to approve the DSR submitted by the cluster and allowed them to prepare DPR strictly as per the guidelines of Government of India. The representatives of the cluster were also advised to undertake soft interventions on account of technical assistance, capacity building, exposure visits, market development, trust building etc. for the cluster units.

2. DSR in case of M/s Karnal Signage CFC Pvt. Ltd.

The consultant informed the committee that M/s Karnal Plastic CFC Pvt. Ltd. has submitted Diagnostic Study Report duly validated in the stakeholders meeting held on 15.09.2016. It was also informed by him that the proposal duly verified and recommended to conduct DSR was received through Joint Director, DIC, Karnal.

Sh. Naresh Saluja, representative of the cluster presented the brief facts about the cluster and submitted that M/s Signage and Advertisement cluster was making efforts to address the emerging challenges before them and to put the cluster on growth path. There are approximately 120 units in the cluster manufacturing various signage products particularly e.g. Flex board, LED Boards, Indoor Branding, Gift Novelties etc. The cluster provides direct employment for more than 1600 persons. Mr. Saluja further informed that most of the units in their Cluster were Micro Units and are facing problems in the absence of advanced machinery items. Most of the MNCs customers are demanding products manufactured on branded machines. The cost of machinery required is very high. There is a huge market for indoor branding, flex printing, UV coating, LED Board and 3D Board. They are meeting the demands of the customer by arranging intermediate products from Delhi and NCR areas. For survival of their member units they need to adopt advanced technology and marketing strategies similar to the units who have installed such machines. For enhancing the productivity and competitiveness as well as capacity building of Micro units, CFC is urgently required.

After detailed deliberations, the committee decided to approve the DSR submitted by the cluster and allowed them to prepare DPR strictly as per the

guidelines of Government of India. The representatives of the cluster were also advised to undertake soft interventions on account of technical assistance, capacity building, exposure visits, market development, trust building etc. for the cluster units.

4.3 DSR in case of M/s Karnal Dairy CFC Pvt. Ltd.

The consultant informed the committee that M/s Karnal Dairy CFC Pvt. Ltd. has submitted Diagnostic Study Report duly validated in the stakeholders meeting held on 15.09.2016. It was also informed by him that the proposal duly updated and recommended to conduct DSR was received through Joint Director, DC, Karnal.

Mr. Pankaj Bhatti, Representative of the cluster informed that there were approximately 250 units in the Cluster which were engaged in the manufacturing of Paneer, Butter, Ghee, Khoya and Ice-cream. The cluster has provided direct employment to more than 5000 persons and the annual turnover of the Cluster is around Rs. 700 crores per annum. The Cluster units are engaged in manufacturing of their products by adopting traditional technology. The major constraints of the Cluster are lack of standardization, wastage of whey low shelf life of packaged milk and other milk products. The requirement of the Cluster is mainly for aseptic milk packaging, cheese processing and whey drying. The SPV members were keen to set up Common Facility Centres by availing financial assistance under MSE-CDP scheme of Ministry of MSME. The Cluster members have already arranged a piece of land for the purpose of setting up of CFC.

After detailed deliberations, the committee decided to approve the DSR submitted by the cluster and allowed them to prepare DPR strictly as per the guidelines of Government of India. The representatives of the cluster were also advised to undertake soft interventions on account of technical assistance, capacity building, exposure visits, market development, trust building etc. for the cluster units.

em discussed other than Agenda

4 DSR in case of M/s Textile Printing Cluster Pvt. Ltd.

Mr. R.C. Dahra, Consultant O/o Director of Industries informed that the office has received DSR in case of Textile Printing Cluster, Panipat. He further informed that the case was discussed in the review meeting held at MSME-DI, Karnal under the Chairmanship of Sh. Sudhir Rajpal, IAS, the then Director General of Industries & Commerce on 15.07.2016 wherein the representatives

Annexure 2: SPV Certificate of Incorporation, Copy of Memorandum of Association (MoA) and Article of Association (AoA)



**GOVERNMENT OF INDIA
MINISTRY OF CORPORATE AFFAIRS**

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 of the Companies Act, 2013 and rule 8 the Companies (Incorporation) Rules, 2014]

I hereby certify that KARNAL DAIRY CFC PRIVATE LIMITED is incorporated on this Fourteenth day of June Two thousand sixteen under the Companies Act, 2013 and that the company is limited by shares.

The CIN of the company is U74999HR2016PTC064562.

Given under my hand at Manesar this Fourteenth day of June Two thousand sixteen .



Arya Jayant Pyarelal
Deputy Registrar of Companies

Central Registration Centre
For and on behalf of the Jurisdictional Registrar of Companies

Mailing Address as per record available in Registrar of Companies office:

KARNAL DAIRY CFC PRIVATE LIMITED

BHARTI VILLA, KUNJPURA ROAD BUDHA KHERA, KARNAL, Karnal,
Haryana, India, 132001



(THE COMPANIES ACT, 2013)

SCHEDULE-I

(See Section 4 and 5)

TABLE-A

MEMORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY SHARES

KARNAL DAIRY CFC PRIVATE LIMITED

- 1st. The Name of the Company is **KARNAL DAIRY CFC PRIVATE LIMITED**
- 2nd. The Registered Office of the Company will be situated in the State of Haryana.
- 3rd. The objects for which the Company is established are :-
 - (A) THE OBJECTS TO BE PURSUED BY THE COMPANY ON ITS INCORPORATION ARE:**
 1. To function as Special Purpose Vehicle (SPV) and Set up Common Facilities Centre(CFC) and other infrastructure activities for the benefits of its members and Industry/concerned stake holders following the guidelines and notifications for MSE-CDP under DC(MSME), New Delhi.
 2. To undertake works/scheme/programs of Government relating to growth and development of Dairy Industry and carry out/conduct soft and hard intervention activities under MSE-CDP.
 3. To act as a resource centre for development and strengthening network as Business development Services related to Technology, Market, Capacity building, Hand holding support etc. for the purpose of growth and development of the Dairy Industry under MSE-CDP.
 4. To available packing material to all members' competitive rates by installing printing press for labels printing and pet bottle plant.
 5. To available raw material to all members by opening of raw material bank.
 6. To arrange latest technology for upgrading all manufacturing unit to provide Quality certificate.
 7. To render assistance and encouragement as may be necessary to persons engaged in Dairy processing and/or Manufacturing Industry.
 8. To conduct training centre programs/seminars.
 9. To undertake and to do trading, manufacturing, import, export of all type of Dairy products and research work in connection with development of Dairy Industry.

B. Matters which are necessary for furtherance of the objects specified in clause 3(A) are:-

1. To purchase and otherwise acquire, own, import, all materials, substances, appliances, machines, containers and such other articles and apparatus and things capable of being used in any of the main business and to own, otherwise acquire and use facilities of whatever kind as may be convenient or useful or conducive to the effective working of the main business of the Company.
2. To acquire, build, alter, maintain, enlarge, remove or replace and to work, manage and control any buildings, offices, factories, mills, shops, machinery and conveniences which may seem necessary to achieve the main objects of the company.
3. To carry on and transact every kind of guarantee, corporate guarantee and counter guarantee business and to guarantee the payment/repayment of loans, borrowings of any nature whatsoever granted by any institutions and/or any person to any individual, firm(s), HUF, company(s), association of person and money secured by or payable under or in respect of stocks, bonds, debentures, debenture stocks, contracts, mortgages, charges, obligations and securities of any company whomsoever whether incorporated or not.
4. To purchase or in exchange, hire, take, options over or otherwise acquire any estate or interests, whatsoever and to hold, develop work, concessions, grants, decrees, licences, privileges, claims, options, property real or personal or rights or powers of any kinds which may appear to be necessary for the main business of the Company.
5. To pay for preliminary and pre-incorporation expenses of the Company.
6. To exchange, mortgage, royalty or tribute, grant licences, easements, options and such other rights over and dispose of the whole or any part of the undertaking, property assets, rights and effects of the Company for such consideration as may be thought fit and in particular for stocks, shares debentures whether fully or partly paid up or securities of any other such company having objects whole or in part similar to those of the Company.
7. To pay for any rights or property acquired by the Company and to remunerate any person, firm or body corporate rendering services to the Company either by cash payment or by allotment to him or them of shares or securities of the Company as paid up in full.
8. To open account or accounts with any individual, firm or Company or with any Bank or Banks or Bankers or shroffs and to pay into and to withdraw money from such account or accounts.
9. To undertake financial and commercial obligations, transactions and operations of all kinds.
10. To guarantee the performance of any contract or obligations and the payment of money or dividends and interest on any stock, shares or securities of any company, corporation, firm or person in any case in which such guarantee may be considered directly or indirectly to further the main objects of the Company.

11. To guarantee the payment of money unsecured or secured or payable under or in respect of promissory notes, bonds, debenture stocks, contracts, mortgages, charges, obligations, instruments and securities of any company or of any Authority, Supreme, Municipal, Local or of any persons whether incorporated or not incorporated and to guarantee or become sureties for the performance of any contracts or obligations as may be necessary for the main business of the Company.
12. To subscribe for, acquire shares, share-stock, debentures, bonds, debenture-stock, mortgages, obligations, securities of any kind issued or guaranteed by any company (Body corporate undertaking) of whatever nature and whatsoever constituted or carrying on the main business and to subscribe for, acquire shares, debentures and debenture-stocks and debenture-bonds, mortgages, obligations and such other securities issued or guaranteed by any Government, trust, Municipal, local or such other authority or body of whatever nature, whether in India or elsewhere as may be conducive to the main business of the Company.
13. To negotiate and/or enter into agreements and contracts with individuals companies, corporations and such other organizations, foreign or Indian, for obtaining or providing technical, or any other assistance for carrying out all or any of the main objects of the Company and also for the purpose of activating financial participation and for technical collaboration and to acquire or provide necessary formulae and patent rights for furthering the main objects of the Company.
14. Subject to the provisions of the Companies Act, 2013 and borrow or raise money in such manner as the Company shall think fit and in particular by the issue of debentures or debenture-stock (perpetual or otherwise) and to secure the payment of any money borrowed, raised or owing on the mortgage, charge or lien upon all or any of the property or assets of the Company (both present or future) including its uncalled capital and also by similar mortgage, charge or lien to secure and guarantee the performance by the Company, or any other such person or Company, of any obligation undertaken by the Company.
15. To draw, make, accept, endorse, discount, negotiate, execute and issue bills of exchange, promissory notes, bills of lading, debentures and other negotiable or transferable instruments or securities.
16. To apply for, purchase or otherwise acquire and protect, prolong and renew in any part of the world, any patents, patent rights, brevets d'inventions, trademarks, designs, licences, protections, and concessions conferring any exclusive or non-exclusive or limited right to their use of information as to any invention, process or privileges which may seem capable of being used for the main objects of the Company or the acquisition of which may seem calculated directly or indirectly, to benefit the company and to use, exercise, develop or grant licences or privileges in respect of the property, rights and information so acquired.
17. To spend money in experimenting upon and testing and improving or seeking to improve any patents, rights, inventions, discoveries, processes or information of the Company or which the Company may acquire or propose to acquire.
18. To do all or any of the main objects either as principals, agents, trustees, contractors or otherwise and either alone or in conjunction with others and either by or through agents, sub-contractors, trustees or otherwise.

19. To acquire and take over the whole or any part of the business, goodwill, trade-marks properties and liabilities of any person or persons, firm, companies or undertakings either existing or new, engaged in or carrying on or proposing to carry on business, this Company is authorized to carry on, possession of any property or rights suitable for the purpose of the Company and to pay for the same either in cash or in shares or partly in cash and partly in shares or otherwise.
20. To procure the registration or recognition of the company in or under the laws of any place outside India.
21. To form, incorporate or promote any company or companies whether in India or elsewhere having amongst its or their objects the acquisition of all or any of the assets or controls, management or development of the Company or any other such objects which in the opinion of the Company could or might directly or indirectly assist the Company in the management of its main business or the development of its properties or otherwise prove advantageous to the Company and to pay all or any of the costs and expenses incurred in connection with any such promotion or incorporation and to remunerate any person or company in any manner it shall think fit for services rendered or to be rendered in or about the formation or promotion of the Company or the conduct of its main business or in about the promotion of any other such company in which the Company may have any interest.
22. Subject to the provisions of the Companies Act, 2013, to amalgamate or to enter into partnership or into any arrangement for sharing profits, union of interest, co-operation, joint venture or reciprocal with any person or persons of company or companies carrying on or engaged in the main business of the Company.
23. To enter into any arrangements and take all necessary or proper steps with Governments or with other such authorities, supreme, national, local, municipal or otherwise of any place in which the Company may have interests and to carry on any negotiations or operations for the purpose of directly or indirectly carrying out the objects of the Company or effecting any modification in the constitution of the company or for furthering the interests of the members and to oppose any such steps taken by any other such company, firm or person which may be considered likely, directly or indirectly, to prejudice the interest of the Company or its members, and to assist in the promotion whether directly or indirectly of any legislation which may seem advantageous to the company and to obtain from any such Government Authority and company any charters, contracts, decrees, rights, grants, loans, privileges, or concessions which the company may think it desirable to obtain and carry out, exercise and comply with any such arrangements, charters, decrees, rights, privileges or concessions.
24. To adopt such means of making known the main business of the Company as may seem expedient and in particular by advertising in the press by circulars, by purchase and exhibition of works of art or interest, by publication of books and periodicals and by granting prizes, and rewards.
25. (a) To undertake and execute any trust, the undertaking of which may seem to the Company desirable and either gratuitously or otherwise and vest any real or personal property, rights or interests acquired by or belonging to

- the company in any person of Company on behalf of or for the benefit of the company and with or without any declared trust in favour of the Company.
- (b) To accept gifts including by way of awards/prizes from Govt. and semi-Govt. bodies and to give gifts to create trust for the welfare of employees, members, directors and/or their dependents, heirs and children and for deserving object for and other persons.
26. To apply the assets of the Company in any way or towards the establishment, maintenance or extension of any association, institution or fund in any way connected with any particular trade or business or with trade or commerce and particularly with the trade, including any association, institution or fund for the interests of masters, owners and employers against loss by bad debt, strike, combustion, fire, accident or otherwise or for the benefit of any employee workman or others at any time employed by the Company or any of its predecessors in business or their families or dependents and whether or not in common with such other persons or classes of persons and in particular of friendly, co-operative and such other societies, reading rooms, libraries, educational and charitable institutions, dining and recreation rooms, churches, chapels, schools, and hospitals and to grant gratuities, pensions and allowances and to contribute to any funds raised by public or local subscription for any purpose.
27. To distribute as dividend or bonus among the member or to place to reserve or otherwise to apply, as the Company may, from time to time, determine any money received by way of premium on debentures issued at a premium by the Company and any money received in respect of forfeited shares, money arising from the sale by the Company of forfeited shares, Subject to the provisions of the Act, 2013.
28. To aid pecuniarily or otherwise, any association, body or movement having for an object the solution, settlement of industrial or labour problems or troubles or the promotion of industry or trade.
29. To subscribe or guarantee money for any national, charitable, benevolent, public, general or useful object of and for exhibition, subject to the provisions of the Companies Act 2013.
30. To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory pension or superannuation funds for the benefit of, and give, or procure the giving of donation, gratuities, pensions, allowances or emoluments to any person who are or were at any time in the employment or service of the Company or is allied to or associated with the company or with any such subsidiary Company or who are or were at any time Directors or officers of the company as aforesaid and the wives, widows, families and dependants of any such persons and also establish and subscribe to any institutions, associations, clubs or funds calculated to be for the benefit of or to advance the interest and well-being of the Company or of any such other Company as aforesaid and make payments to or towards the protection of any such persons as aforesaid and do any of the matters aforesaid, either, alone or in conjunction with any such other company as aforesaid.

31. To agree to refer to arbitration any dispute, present or future between the Company and any other company, firm, individual or any other body and to submit the same to arbitration in India or abroad either in accordance with Indian or any foreign system of law.
32. To appoint agents, sub-agents, dealers, managers canvassers, sales representatives or salesmen for transacting all or any kind of the main business of which this Company is authorized to carry on and to constitute agencies of the Company in India or in any other country and establish depots and agencies in different parts of the world.
33. To guarantee the payment or performance of any contracts or obligations or become surety for any person, firm or company for any purpose and to act as agents for the collection, receipt or payment of money and to act as agents for and render services to customers and others and to give guarantees and indemnities. To give surety/mortgage/pledge of the property for raising fund/loan for and on behalf of the company/associates concern/person/any other company.
34. To establish and run units, sister concerns operate for any of the main at places in or outside India as the Company may deem expedient.
35. To do all such other things as may be deemed incidental or conducive to the attainment of the main objects.
36. To collaborate, merger and acquisition, joint venture with Indian and foreign experts, companies, firms, to start industry and business in or outside India on such terms and conditions as the company may deem fit.
- 4th. The liability of the member(s) is limited and this liability is limited to the amount unpaid, if any, on the shares held by them.**
- 5th. The Authorised share capital of the company is Rs. 1,00,000/- (Rupees One Lac) divided into 10,000 (Ten Thousand) Equity shares of Rs.10/- (Rupees Ten) each.**

VI. We, the several persons, whose names and addresses, are subscribed, are desirous of being formed into a Company in pursuance of THIS MEMORANDUM OF ASSOCIATION, and we respectively agree to take the number of shares in the Capital of the Company, set against our respective names :

S. No.	Names, Addresses, Description and Occupation of subscriber	No. of shares taken by each subscribers	Signature of Subscriber	Signature, name, addresses, description and occupation of witnesses
1.	Dinesh Bharti S/o Hari Chand H. No. 462, Bharti Villa, Kunjpura Road, Budha Khera, Karnal-132001 Haryana Occupation: Business	5000 Shares of Rs. 10/-	Sd/-	<p>I witness to subscribers, who has subscribed and signed in my presence on 18/05/2016 at Karnal. Further I have verified their identity details for their identification and satisfied myself of their identification particulars as filled in.</p> <p>Sd/- Garima Punshi S/o Jagdish Kumar Punshi Chartered Accountant M. No. 526372 344/14 Urban Estate Karnal</p>
2.	Amit Garg S/o Narender Kumar Gupta Address: H. No. 114 Sector 14, Urban Estate, Karnal Occupation: Business	5000 Shares of Rs. 10/-	Sd/-	
Total		10,000 Shares (Ten Thousand)		

Place : Karnal

Dated : 18-05-2016

(THE COMPANIES ACT, 2013)

TABLE-F

ARTICLES OF ASSOCIATION OF A COMPANY LIMITED BY SHARES
KARNAL DAIRY CFC PRIVATE LIMITED

PRELIMINARY

1. Subject as hereinafter provided the Regulations contained in Table 'F' in the Schedule I to the Companies Act, 2013 shall apply to the Company.

INTERPRETATION

2. (1) In these Regulations :-
 - (a) "Company" means **KARNAL DAIRY CFC PRIVATE LIMITED**
 - (b) "Annexure" means the Annexure to these rules.
 - (c) "Act" means the Companies Act, 2013, and any statutory modification thereof.
- (2) Unless the context otherwise requires words or expressions contained in these Articles shall be the same meaning as in the Act, or any statutory modification thereof in force at the date at which these Articles become binding on the Company.

PRIVATE COMPANY

3. The Company is a Private Company within the meaning of Section 2(68) of the Companies Act, 2013 and accordingly:-
 - (i) restrict the right to transfer its shares.
 - (ii) except in case of One Person Company, limits the number of its member to Two Hundred:

Provided that where two or more persons hold one or more shares in a company jointly, they shall, for the purposes of this clause, be treated as a single member:

Provided further that;

- (a) persons who are in the employment of the company; and
- (b) person who, having been formerly in the employment of the company, were member of the company while in that employment and have continued to be members after the employment ceased, shall not be included in the number of members :and
- (iii) Prohibits any invitation to the public to subscribe for any securities of the company.

SHARE CAPITAL AND VARIATION OF RIGHTS

4. The Authorised Share Capital of the Company shall be such amounts and be divided into such shares as may, from time to time, be provided in Clause V of the Memorandum of Association with power to increase or reduce the capital in accordance with the Company's regulations and legislative provisions for the time being in force in that behalf with the powers to divide the share capital, whether original increased or decreased into several classes and attach thereto respectively such ordinary, preferential or special rights and conditions in such a manner as may for the time being be provided by the Regulations of the Company and allowed by law.
5. The business of the Company may be commenced soon after the incorporation of the Company as and when the Directors shall think fit notwithstanding that part of the shares have been allotted.
6. The shares shall be under the discretionary control of the Directors who may allot or otherwise dispose of the same.
7. The Company in general meeting may decide to issue fully paid up bonus share to the member if so recommended by the Board of Directors.
8. The certificate to share registered in the name of two or more person shall be delivered to first named person in the register and this shall be a sufficient delivery to all such holders.
9. (i) Every person whose name is entered as a member in the register of members shall be entitled to receive within two months after incorporation, in case of subscribers to the memorandum or after allotment or within one month after the application for the registration of transfer or transmission or within such other period as the conditions of issue shall be provided,—
 - (a) One certificate for all his shares without payment of any charges; or
 - (b) Several certificates, each for one or more of his shares, upon payment of twenty rupees for each certificate after the first.
- (ii) Every certificate shall be under the seal and shall specify the shares to which it relates and the amount paid -up thereon.
- (iii) In respect of any share or shares held jointly by several persons, the company shall not be bound to issue more than one certificate, and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all such holders.
10. (i) If any share certificate be worn out, defaced, mutilated or torn or if there be no further space on the back for endorsement of transfer, then upon production and surrender thereof to the company, a new certificate may be issued in lieu thereof, and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company deem adequate, a new certificate in lieu thereof shall be given. Every certificate under this Article shall be issued on payment of twenty rupees for each certificate.
- (ii) The provisions of Articles (9) and (10) shall *mutatis mutandis* apply to debentures of the company.

11. Except as required by law, no person shall be recognised by the company as holding any share upon any trust, and the company shall not be bound by, or be compelled in any way to recognise (even when having notice thereof) any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share, or (except only as by these regulations or by law otherwise provided) any other rights in respect of any share except an absolute right to the entirety thereof in the registered holder.
12. (i) The company may exercise the powers of paying commissions conferred by sub-section (6) of section 40, provided that the rate per cent or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by that section and rules made there under.
(ii) The rate or amount of the commission shall not exceed the rate or Amount prescribed in rules made under sub-section (6) of section 40.
(iii) The commission may be satisfied by the payment of cash or the allotment of fully or partly paid shares or partly in the one way and partly in the other.
13. (i) If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, subject to the provisions of section 48, and whether or not the company is being wound up, be varied with the consent in writing of the holders of three -fourths of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.
(ii) To every such separate meeting, the provisions of these regulations relating to general meetings shall *mutatis mutandis* apply, but so that the necessary quorum shall be at least two persons holding at least one-third of the issued shares of the class in question.
14. The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by the terms of issue of the shares of that class, be deemed to be varied by the creation or issue of further shares ranking *pari passu* therewith.
15. Subject to the provisions of section 55, any preference shares may, with the sanction of an ordinary resolution, be issued on the terms that they are to be redeemed on such terms and in such manner as the company before the issue of the shares may, by special resolution, determine.

LIEN

16. The Company shall have a first and paramount lien upon all the shares (not being a fully paid up share) registered in the name of such member (whether solely or jointly with others) and upon the proceeds of sale thereof for his debts, liabilities and engagements (whether presently payable or not) solely or jointly with any other person, to or with the Company, whether the period for the payment, fulfillment or discharge thereof shall have actually alien or not and such lien shall extend to all dividends, from time to time, declared in respect of shares, subject to section 124 and bonuses declared from time to time in respect of such shares under the Act. The Board of Directors may at any time declare any shares to be wholly or in part exempt from the provisions of this clause.

CALLS ON SHARES AND TRANSFER OF SHARES

17. The Directors are empowered to make call on members of any amount payable at a time fixed by them.

18. Any member desiring to sell any of his shares must notify the Board of Directors of the number of shares, the fair value and the name of the proposed transferee and the Board must offer to the other shareholders the shares offered at the fair value and if the offer is accepted, the shares shall be transferred to the acceptor and if the shares or any of them, are not so accepted within one month from the date of notice to the Board the members proposing transfers shall, at any time within three months afterwards, be at liberty, subject to Articles 19 and 20 hereof, to sell and transfer the shares to any persons at the same or at higher price.

In case of any dispute, regarding the fair value of the share it shall be decided and fixed by the Company's Auditor whose decision shall be final.

19. No transfer of shares shall be made or registered without the previous sanction of the Directors, except when the transfer is made by any member of the Company to another member or to a member's wife or child or children or his heirs and the Directors may decline to give such sanction without assigning any reason subject to Section 58 and 59 of the Act.
20. The Directors may refuse to register any transfer of shares (1) where the Company has a lien on the shares or (2) where the shares are not fully paid up shares, subject to Section 58 and 59 of the Companies Act, 2013.
21. Subject to Section 58 and 59 of the Act, the Directors may in their discretion, without assigning any reason, refuse to register the transfer of any shares to any person, whom it shall, in their opinion, be undesirable in the interest of the Company to admit to membership.
22. At the death of any members his or her shares be recognised as the property of his or her heirs upon production of reasonable evidence as may required by the Board of Directors.
23. The instrument of transfer must be accompanied by the certificates of shares.

TRANSMISSION OF SHARES

24. (i) On the death of a member, the survivor or survivors where the member was a joint holder, and his nominee or nominees or legal representatives where he was a sole holder, shall be the only persons recognised by the company as having any title to his interest in the shares.
- (ii) Nothing in clause (i) shall release the estate of a deceased joint holder from any liability in respect of any share which had been jointly held by him with other persons.
25. (i) Any person becoming entitled to a share in consequence of the death or insolvency of a member may, upon such evidence being produced as may from time to time properly be required by the Board and subject as hereinafter provided, elect, either—
- (a) to be registered himself as holder of the share; or
- (b) to make such transfer of the share as the deceased or insolvent member could have made.
- (ii) The Board shall, in either case, have the same right to decline or suspend registration as it would have had, if the deceased or insolvent member had transferred the share before his death or insolvency.
26. (i) If the person so becoming entitled shall elect to be registered as holder of the share

himself, he shall deliver or send to the company a notice in writing signed by him stating that he so elects.

- (ii) If the person aforesaid shall elect to transfer the share, he shall testify his election by executing a transfer of the share.
 - (iii) All the limitations, restrictions and provisions of these regulations relating to the right to transfer and the registration of transfers of shares shall be applicable to any such notice or transfer as aforesaid as if the death or insolvency of the member had not occurred and the notice or transfer were a transfer signed by that member.
27. A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the company:

Provided that the Board may, at any time, give notice requiring any such person to elect either to be registered himself or to transfer the share, and if the notice is not complied with within ninety days, the Board may thereafter withhold payment of all dividends, bonuses or other monies payable in respect of the share, until the requirements of the notice have been complied with.

FORFEITURE OF SHARES

28. If a member fails to pay any call, or installment of a call, on the day appointed for payment thereof, the Board may, at any time thereafter during such time as any part of the call or installment remains unpaid, serve a notice on him requiring payment of so much of the call or installment as is unpaid, together with any interest which may have accrued.
29. The notice aforesaid shall —
- (a) Name a further day (not being earlier than the expiry of fourteen days from the date of service of the notice) on or before which the payment required by the notice is to be made; and
 - (b) State that, in the event of non-payment on or before the day so named, the shares in respect of which the call was made shall be liable to be forfeited.
30. If the requirements of any such notice as aforesaid are not complied with, any share in respect of which the notice has been given may, at any time thereafter, before the payment required by the notice has been made, be forfeited by a resolution of the Board to that effect.
31. (i) A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the Board thinks fit.
- (ii) At any time before a sale or disposal as aforesaid, the Board may cancel the forfeiture on such terms as it thinks fit.
32. (i) A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall, notwithstanding the forfeiture, remain liable to pay to the company all monies which, at the date of forfeiture, were presently payable by him to the company in respect of the shares.

- (ii) The liability of such person shall cease if and when the company shall have received payment in full of all such monies in respect of the shares.
- 33. (i) A duly verified declaration in writing that the declared is a director, the manager or the secretary, of the company, and that a share in the company has been duly forfeited on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the share.
- (ii) The company may receive the consideration, if any, given for the share on any sale or disposal thereof and may execute a transfer of the share in favor of the person to whom the share is sold or disposed of.
- (iii) The transferee shall thereupon be registered as the holder of the share.
- (iv) The transferee shall not be bound to see to the application of the purchase money, if any, nor shall his title to the share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, sale or disposal of the share.
- 34. The provisions of these regulations as to forfeiture shall apply in the case of non-payment of any sum which, by the terms of issue of a share, becomes payable at a fixed time, whether on account of the nominal value of the share or by way of premium, as if the same had been payable by virtue of a call duly made and notified.

ALTERATION OF CAPITAL

- 35. The company may, from time to time, by ordinary resolution increase the share capital by such sum, to be divided into shares of such amount, as may be specified in there solution.
- 36. Subject to the provisions of section 61, the company may, by ordinary resolution,—
 - (a) Consolidate and divide all or any of its share capital into shares of larger amount than its existing shares;
 - (b) Convert all or any of its fully paid-up shares into stock, and reconvert that stock into fully paid-up shares of any denomination;
 - (c) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the memorandum;
 - (d) Cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.
- 37. Where shares are converted into stock,—
 - (a) the holders of stock may transfer the same or any part thereof in the same manner as, and subject to the same regulations under whic h, the shares from which the stock arose might before the conversion have been transferred, or as near thereto as circumstances admit:

Provided that the Board may, from time to time, fix the minimum amount of stock transferable, so, however, that such min imum shall not exceed the nominal amount of the shares from which the stock arose.

- (b) the holders of stock shall, according to the amount of stock held by them, have the same rights, privileges and advantages as regards dividends, voting at meetings of the company, and other matters, as if they held the shares from which the stock arose;

- but no such privilege or advantage (except participation in the dividends and profits of the company and in the assets on winding up) shall be conferred by an amount of stock which would not, if existing in shares, have conferred that privilege or advantage.
- (c) Such of the regulations of the company as are applicable to paid-up shares shall apply to stock and the words "share" and "shareholder" in those regulations shall include "stock" and "stock-holder" respectively.
38. The company may, by special resolution, reduce in any manner and with, and subject to, any incident authorised and consent required by law,—
- (a) Its share capital;
 - (b) Any capital redemption reserve account; or
 - (c) Any share premium account.

CAPITALISATION OF PROFITS

39. (i) The company in general meeting may, upon the recommendation of the Board, Resolve—
- (a) that it is desirable to capitalise any part of the amount for the time being standing to the credit of any of the company's reserve accounts, or to the credit of the profit and loss account, or otherwise available for distribution; and
 - (b) that such sum be accordingly set free for distribution in the manner specified in clause (ii) amongst the members who would have been entitled thereto, if distributed by way of dividend and in the same proportions.
- (ii) The sum aforesaid shall not be paid in cash but shall be applied, subject to the provision contained in clause (iii), either in or towards—
- (A) paying up any amounts for the time being unpaid on any shares held by such members respectively;
 - (B) Paying up in full, unissued shares of the company to be allotted and distributed, credited as fully paid-up, to and amongst such members in the proportions aforesaid;
 - (C) Partly in the way specified in sub-clause (A) and partly in that specified in sub-clause (B);
 - (D) A securities premium account and a capital redemption reserve account may, for the purposes of this regulation, be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares;
 - (E) The Board shall give effect to the resolution passed by the company in pursuance of this regulation.
40. (i) Whenever such a resolution as aforesaid shall have been passed, the Board shall —
- (a) make all appropriations and applications of the undivided profits resolved to be capitalised thereby, and all allotments and issues of fully paid shares if any; and
 - (b) generally do all acts and things required to give effect thereto.

(ii) The Board shall have power—

(a) to make such provisions, by the issue of fractional certificates or by payment in cash or otherwise as it thinks fit, for the case of shares becoming distributable in fractions; and

(b) to authorise any person to enter, on behalf of all the members entitled there to, into an agreement with the company providing for the allotment to them respectively, credited as fully paid-up, of any further shares to which they may be entitled upon such capitalisation, or as the case may require, for the payment by the company on their behalf, by the application thereto of their respective proportions of profits resolved to be capitalised, of the amount or any part of the amounts remaining unpaid on their existing shares;

(iii) Any agreement made under such authority shall be effective and binding on such members.

BUY-BACK OF SHARES

- 41 Notwithstanding anything contained in these articles but subject to the provisions of sections 68 to 70 and any other applicable provision of the Act or any other law for the time being in force, the company may purchase its own shares or other specified securities.

GENERAL MEETINGS

42. All general meetings other than annual general meeting shall be called extraordinary general meeting.
43. (i) The Board may, whenever it thinks fit, call an extraordinary general meeting.
- (ii) If at any time directors capable of acting who are sufficient in number to form a quorum are not within India, any director or any two members of the company may call an extraordinary general meeting in the same manner, as nearly as possible, as that in which such a meeting may be called by the Board.

PROCEEDINGS AT GENERAL MEETINGS

44. (i) No business shall be transacted at any general meeting unless a quorum of members is present at the time when the meeting proceeds to business.
- (ii) Save as otherwise provided herein, the quorum for the general meetings shall be as provided in section 103.
45. The chairperson, if any, of the Board shall preside as Chairperson at every general meeting of the company.
46. If there is no such Chairperson, or if he is not present within fifteen minutes after the time appointed for holding the meeting, or is unwilling to act as chairperson of the meeting, the directors present shall elect one of their members to be Chairperson of the meeting.
47. If at any meeting no director is willing to act as Chairperson or if no director is present within fifteen minutes after the time appointed for holding the meeting, the members present shall choose one of their members to be Chairperson of the meeting.
48. (i) The Chairperson may, with the consent of any meeting at which a quorum is present, and shall, if so directed by the meeting, adjourn the meeting from time to time and from place to place.

- (ii) No business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.
- (i) When a meeting is adjourned for thirty days or more, notice of the adjourned meeting shall be given as in the case of an original meeting.
- (ii) Save as aforesaid, and as provided in section 103 of the Act, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

VOTING RIGHTS AND PROXY

49. Subject to any rights or restrictions for the time being attached to any class or classes of shares,—
- (a) on a show of hands, every member present in person shall have one vote; and
 - b) on a poll, the voting rights of members shall be in proportion to his share in the paid-up equity share capital of the company.
50. A member may exercise his vote at a meeting by electronic means in accordance with section 108 and shall vote only once.
51. (i) In the case of joint holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders.
- (ii) For this purpose, seniority shall be determined by the order in which the names stand in the register of members.
52. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on a show of hands or on a poll, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.
53. Any business other than that upon which a poll has been demanded may be preceded with, pending the taking of the poll.
54. No member shall be entitled to vote at any general meeting unless all calls or other sums presently payable by him in respect of shares in the company have been paid.
55. (i) No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purposes.
- (ii) Any such objection made in due time shall be referred to the Chairperson of the meeting, whose decision shall be final and conclusive.
56. The instrument appointing a proxy and the power-of-attorney or other authority, if any, under which it is signed or a notarised copy of that power or authority, shall be deposited at the registered office of the company not less than 48 hours before the time for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote, or, in the case of a poll, not less than 24 hours before the time appointed for the taking of the poll; and in default the instrument of proxy shall not be treated as valid.
57. An instrument appointing a proxy shall be in the form as prescribed in the rules made under section 105.

58. A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death or insanity of the principal or the revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given:

Provided that no intimation in writing of such death, insanity, revocation or transfer shall have been received by the company at its office before the commencement of the meeting or adjourned meeting at which the proxy is used.

BOARD OF DIRECTORS

59. The number of Directors shall not be less than two and not more than fifteen.
60. The following shall be the First Directors of the Company.
1. Dinesh Bharti
 2. Amit Garg
61. The Directors may from time to time, appoint one or more of their body to the office of the Managing Director for one or more of the divisions of the business carried on by the Company and to enter into agreement with him in such terms and conditions as they may deem fit.
62. Subject to the provisions of section 149, the Board of Directors, at any time and from time to time, to appoint any person as additional Director in addition to the existing Director so that the total number of Directors shall not at any time exceed the number fixed for Directors in these articles, Any Directors so appointed shall hold office only until the next following Annual General Meeting but shall be eligible thereof for election as Director.
63. The Managing Director may be paid such remuneration as may, from time to time, be determined by the Board and such remuneration as may be fixed by way of salary or commission or participation in profits or partly in one way or partly in another subject to the provisions of the Companies Act, 2013.
64. The quorum necessary for the transaction, of the business of the Board meeting subject to Section 174 of the Act, shall be one third of the total strength or at least two whichever is higher. The participation of the directors by video conferencing or by other audio visual means shall also be count for the purpose of quorum.
65. Subject to section 175 of the Act, a resolution in writing signed by the Director except a resolution which the Act specifically required it to be passed at a Board meeting shall be effective for all purposes as a resolution passed at a meeting of Directors duly called, held and constituted.

PROCEEDINGS OF THE BOARD

66. (i) The Board of Directors may meet for the conduct of business, adjourn and otherwise regulate its meetings, as it thinks fit.
- (ii) A director may, and the manager or secretary on the requisition of a director shall, at any time, summon a meeting of the Board.
67. (i) Save as otherwise expressly provided in the Act, questions arising at any meeting of the Board shall be decided by a majority of votes.

- (ii) In case of an equality of votes, the Chairperson of the Board, if any, shall have a second or casting vote.
68. The continuing directors may act notwithstanding any vacancy in the Board; but, if and so long as their number is reduced below the quorum fixed by the Act for a meeting of the Board, the continuing directors or director may act for the purpose of increasing the number of directors to that fixed for the quorum, or of summoning a general meeting of the company, but for no other purpose.
69. (i) The Board may elect a Chairperson of its meetings and determine the period for which he is to hold office.
- (ii) If no such Chairperson is elected, or if at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting, the directors present may choose one of their number to be Chairperson of the meeting.
70. (i) The Board may, subject to the provisions of the Act, delegate any of its powers to committees consisting of such member or members of its body as it thinks fit.
- (ii) Any committee so formed shall, in the exercise of the powers so delegated, conform to any regulations that may be imposed on it by the Board.
71. (i) A committee may elect a Chairperson of its meetings.
- (ii) If no such Chairperson is elected, or if at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting, the members present may choose one of their members to be Chairperson of the meeting.
72. (i) A committee may meet and adjourn as it thinks fit.
- (ii) Questions arising at any meeting of a committee shall be determined by a majority of votes of the members present, and in case of an equality of votes, the Chairperson shall have a second or casting vote.
73. All acts done in any meeting of the Board or of a committee thereof or by any person acting as a director, shall, notwithstanding that it may be afterwards discovered that there was some defect in the appointment of any one or more of such directors or of any person acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such director or such person had been duly appointed and was qualified to be a director.
74. Save as otherwise expressly provided in the Act, a resolution in writing, signed by all the members of the Board or of a committee thereof, for the time being entitled to receive notice of a meeting of the Board or committee, shall be valid and effective as if it had been passed at a meeting of the Board or committee, duly convened and held.
- CHIEF EXECUTIVE OFFICER, MANAGER, COMPANY SECRETARY OR CHIEF FINANCIAL OFFICER**
75. Subject to the provisions of the Act,—
- (i) A chief executive officer, manager, company secretary or chief financial officer may be appointed by the Board for such term, at such remuneration and upon such conditions as it may think fit; and any chief executive officer, manager, company secretary or chief financial officer so appointed may be removed by means of a resolution of the Board;

- (ii) A director may be appointed as chief executive officer, manager, company secretary or chief financial officer.
76. A provision of the Act or these regulations requiring or authorising a thing to be done by or to a director and chief executive officer, manager, company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as, or in place of, chief executive officer, manager, company secretary or chief financial officer.

COMMON SEAL

77. (a) The Common Seal of the Company may be made either of metal or of rubber as the directors may decide.
- (b) The Board shall provide for the safe custody of the Company's Common Seal.
- (c) The Seal shall not be affixed to any instrument except by the authority of a resolution of the Board or of a Committee of the Board authorised by it in that behalf and except in the presence of at least one director who shall sign every instruments to which the seal of the Company is so affixed. The share certificate will, however, be signed and Sealed in accordance with Rule prescribed by Central Government in this regard.

BORROWING POWERS

78. Subject to section 73 and 179 of the Companies Act, 2013, and Regulations made there under and Directions issued by the RBI the directors may, from time to time, raise or borrow any sums of money for and on behalf of the Company from the member or other persons, companies or banks or they may themselves advance money to the company on such interest as may be approved by the Directors.
79. The Directors may, from time to time, secure the payment of such money in such manner and upon such terms and conditions in all respects as they deem fit and in particular by the issue of bonds or debentures or by pledge, mortgage, charge or any other security on all or any properties of the Company (both present and future) including its uncalled capital for the time being.

OPERATION OF BANK ACCOUNTS

80. The Directors shall have the power to open bank accounts to sign cheques on behalf of the Company and to operate all banking accounts of the Company and to receive payments, make endorsements, draw and accept negotiable instruments, hundies and bills or may authorise any other person or persons to exercise such powers.

DIVIDENDS AND RESERVE

81. The company in general meeting may declare dividends, but no dividend shall exceed the amount recommended by the Board.
82. Subject to the provisions of section 123, the Board may from time to time pay to the members such interim dividends as appear to it to be justified by the profits of the company.
83. (i) The Board may, before recommending any dividend, set aside out of the profits of the company such sums as it thinks fit as a reserve or reserves which shall, at the discretion of the Board, be applicable for any purpose to which the profits of the company may be properly applied, including provision for meeting contingencies or for equalizing dividends; and pending such application, may, at the like discretion,

- either be employed in the business of the company or be invested in such investments (other than shares of the company) as the Board may, from time to time, thinks fit.
- (ii) The Board may also carry forward any profits which it may consider necessary not to divide, without setting them aside as a reserve.
84. (i) Subject to the rights of persons, if any, entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid or credited as paid on the shares in respect whereof the dividend is paid, but if and so long as nothing is paid upon any of the shares in the company, dividends may be declared and paid according to the amounts of the shares.
- (ii) No amount paid or credited as paid on a share in advance of calls shall be treated for the purposes of this regulation as paid on the share.
- (iii) All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares during any portion or portions of the period in respect of which the dividend is paid; but if any share is issued on terms providing that it shall rank for dividend as from a particular date such share shall rank for dividend accordingly.
85. The Board may deduct from any dividend payable to any member all sums of money, if any, presently payable by him to the company on account of calls or otherwise in relation to the shares of the company.
86. (i) Any dividend, interest or other monies payable in cash in respect of shares maybe paid by cheque or warrant sent through the post directed to the registered address of the holder or, in the case of joint holders, to the registered address of that one of the joint holders who is first named on the register of members, or to such person and to such address as the holder or joint holders may in writing direct.
- (ii) Every such cheque or warrant shall be made payable to the order of the person to whom it is sent.
87. Any one of two or more joint holders of a share may give effective receipts for any dividends, bonuses or other monies payable in respect of such share.
88. Notice of any dividend that may have been declared shall be given to the persons entitled to share therein in the manner mentioned in the Act.
89. No dividend shall bear interest against the company.

ACCOUNTS

90. (a) The Board shall, from time to time, determine whether and to what extent and at what, times and places and under what conditions or regulation the accounts and books of the Company or any of them shall be open to the inspection of members (not being Director).
- (b) No members (not being Director) shall have any right of inspecting any accounts or books of account of the Company except as conferred by law or authorised by the Board or by the Company in General Meeting.
91. The Directors shall in all respect comply with the provisions of Section 128, 134, 137, 206, 207 and 208, of the Act, and profits and Loss Account, Balance Sheet and Auditors Report and every other document required by law to annexed or attached as the case may be, to

the Balance Sheet, to be sent to every member and debenture holder of the Company and every trustee for the holders of the debentures issued by the Company at least twenty one days before the date of Annual general meeting of the Company at which they are to be laid, subject to the provisions of section 136 of the Act.

AUDIT

92. (a) The first Auditor of the Company shall be appointed by the Board Of Directors within one month from the date of registration of the Company and the Auditors so appointed shall hold office until the conclusion of the first Annual General Meeting.
- (b) At first annual General Meeting the Company shall appoint an Auditor to hold Office from the conclusion of the Meeting till the conclusion of its sixth Annual General Meeting and thereafter till the conclusion of every six meeting.
- (c) The remuneration of the Auditor shall be fixed by the Company in the Annual General Meeting or in such manner as the Company in the Annual General Meeting may determine. In case of an Auditor appointed by the Board his remuneration shall be fixed by the Board.

WINDING UP

93. Winding up when necessary will be done in accordance with the requirements of the Companies Act, 2013 or statutory modification thereto.

SECRECY

94. Subject to the provisions of law of land and the act, every manager, auditor trustee, member of a committee, officer servant, agent accountant or other persons employed in the business of the company shall, if so required by the Board of Directors before entering upon his duties, sign, declaration, pledging himself to observe strict secrecy respecting all transactions of the Company with its customers and the state of account with individuals and in matters relating thereto and shall by such declaration pledge himself, not to reveal any of the matters which may come to his knowledge in the discharge of his duties except when required to do so by the directors or by any court of law and except so far as may be necessary in order to comply with any of the provisions in these presents.

INDEMNITY

95. Every officer of the company shall be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal.

Note: The Articles shall be signed by each subscriber of the memorandum of association who shall add his address, description and occupation, if any, in the presence of at least one witness who shall attest the signature and shall likewise add his address, description and occupation, if any, and such signatures shall be in form specified below:

S. No.	Names, Addresses, Descriptions and Occupations of subscriber	Signature of Subscriber	Signature, names, addresses, descriptions and occupations of witnesses
1.	Dinesh Bharti H. No. 462, Bharti Villa, Kunjpura Road, Budha Khera, Karnal-132001 Haryana Occupation: Business	Sd/-	<p>I witness to subscribers, who has subscribed and signed in my presence on 18/05/2016 at Karnal. Further I have verified their identity details for their identification and satisfied myself of their identification particulars as filled in.</p> <p>Sd/- Garima Punshi S/o Jagdish Kumar Punshi Chartered Accountant M. No. 526372 344/14 Urban Estate Karnal</p>
2.	Amit Garg S/o Narender Kumar Gupta Address: H. No. 114 Sector 14, Urban Estate, Karnal Occupation: Business	Sd/-	

Place : Karnal


Dated : 18-05-2016

Annexure 3: Letter from MSME-DI Karnal to Director of Industries, Haryana

भारत सरकार
सूक्ष्म, सानु एवं मध्यम उद्यम संस्थान
एकसंयुक्त-विकास संस्थान
(पूर्ववर्ती सानु उद्यम सेवा संस्थान)
F-1, औद्योगिक विकास कॉलोनी,
नवदीप आई.टी.आई., कृतिपुरा रोड,
कान्हाल-132001 (हरियाणा)

फोन-0156-2231862, 2231863 / ई-मेल- dca@karnal.msme.gov.in / वेबसाइट- www.msmedikarnal.gov.in

GOVERNMENT OF INDIA
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
MSME-DEVELOPMENT INSTITUTE
(Formerly Small Industries Service Institute)
F-1 A, Industrial Development Colony
Near I.T.I., Karpurda Road,
KANHAL-132001 (Haryana)



सूक्ष्म, सानु एवं मध्यम उद्यम

To: MSMED/KNL/SA/HR-Govt. Cluster/2016-17
The Director of Industries,
Govt. of Haryana, 3o Bays Building,
Sector-17 C, Chandigarh

Kind Atten : Sh. R.C. Dahra, Consultant


Sub: Forwarding of comments/views in respect of proposed cluster in Karnal – reg.

This has ref. to validation workshop of DSR in respect of Signage and Advertisement Cluster, Karnal, Dairy and Ice Cream Cluster, Plastic Product Cluster, Karnal under the Chairmanship of Sh. Major Singh, Director, MSME Development Institute, Karnal, Sh. R.C. Dahra Consultant, Haryana Govt., Sh. Hemraj Singh from CIPET, Bhiwani, Sonapat, Sh. Gyan Mutreja from Model Dairy, Karnal, bankers from OBC and SPV members of all cluster at Gym Khana Club, Sector-8, Karnal.

Comments by Technical Team are forwarded for further necessary action at your end please.

This issues with the approval of Director.

Dated: 22.09.2016



Yours faithfully,
(Sandeep Agarwal)
Asstt. Director (Chem)
for Director

Encls: As above

Copy to:
Sh. K. Newar, Dy. Director (Cluster) O/o the DC(MSME), 7th floor, Nirman Bhawan,
Mahatma Azad Road, New Delhi-110108 for kind information please.

(Sandeep Agarwal)
Asstt. Director (Chem)

22.09.2016

**Brief Note on validation of DSR in respect of Karnal Dairy CFC Private Limited Cluster,
Karnal**

A validation workshop of DSR in respect of Karnal Dairy CFC Private Limited Cluster, Karnal was organized under Chairmanship of Sh. Major Singh, Director, MSME DI, Karnal on 15.9.2016 and other stakeholder of cluster Sh. R.C. Dahra, Consultant Haryana Govt., Sh. Gyan Mutreja, from Model dairy, Karnal and bankers from OBC and SPV members of cluster were present during the validation of workshop on 15.9.2016.

As per DSR submitted total no. of units in the cluster are 178.

The main product of cluster is milk based products.

The SPV members of the cluster seem to be positive in their work towards development of dairy products in Karnal.

On the basis of above observation & discussion with members of cluster, it is submitted, that the DSR may be approved subject to submission of UAM and uploading of data in MSME data bank of all the members of clusters. Though it is mandatory.

Apart from there an expert opinion may also be sought from senior scientists from NDRI (National Dairy Development Institute), Karnal.

Submitted for kind perusal and information please.

(S. Nigam)

MSMED I, Karnal

Annexure 4: Land availability proof

Karnal Dairy CFC Pvt. Ltd.

Letter No. _____ / Dated/ 23-05-2017

To,
The Director, Industries
Department of Industries & Commerce
Govt. of Haryana
Sector 17, Chandigarh

Subject: Regarding purchase & registration of land in the name of Karnal Dairy CFC Private Limited for construction of CFC for Dairy cluster, Karnal

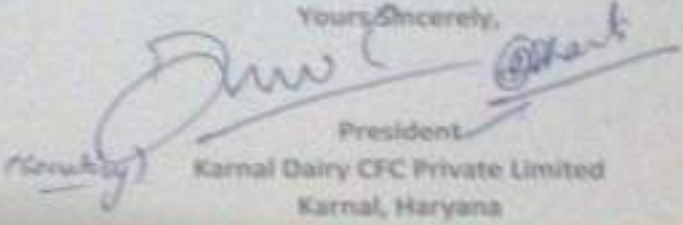
Reference: Cluster project to establish Common Facility Centre (CFC) under MSE-COP scheme of Ministry of MSME

Dear Sir,

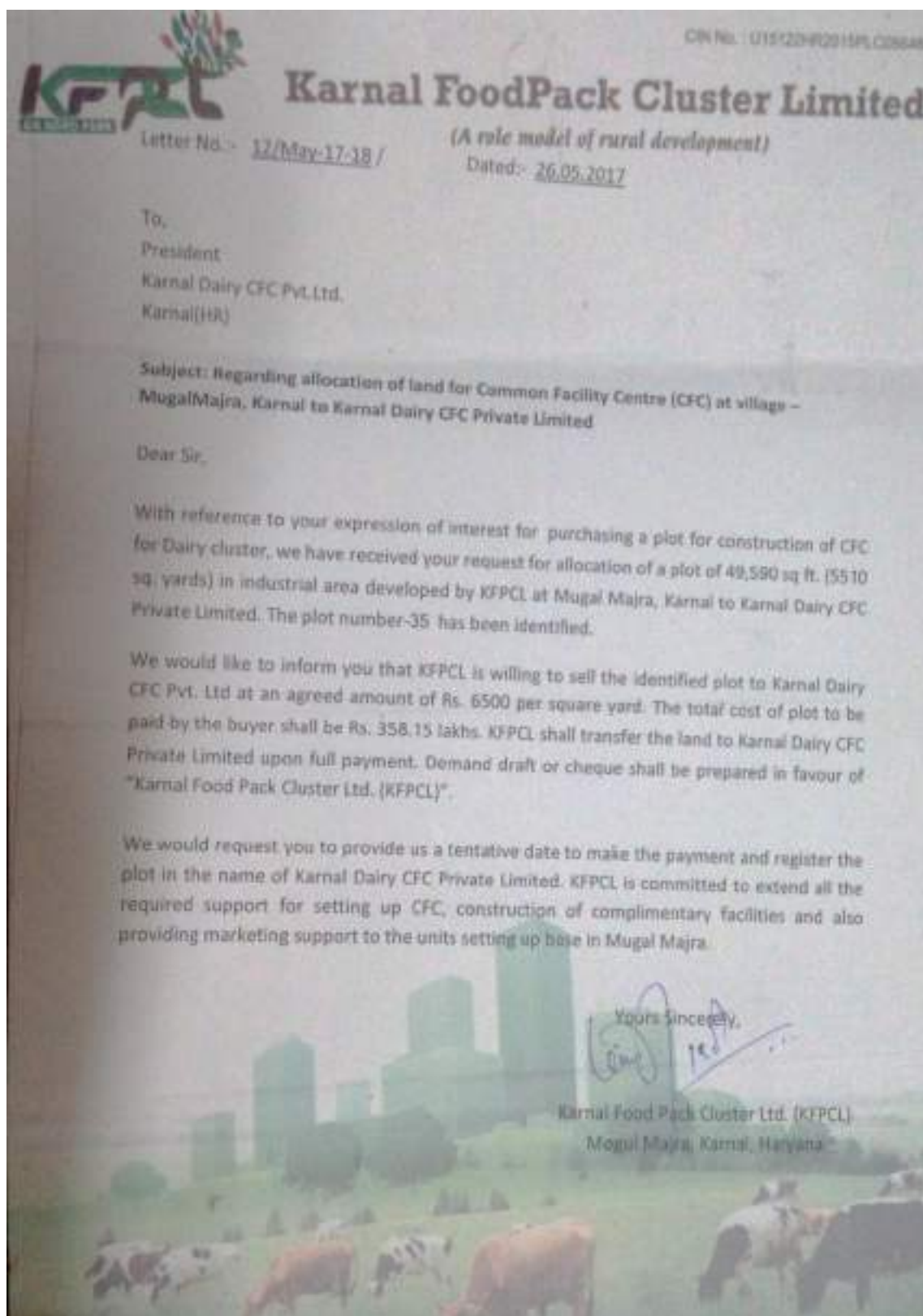
At the outset, we would like to thank you for getting the DPR made for Karnal Dairy cluster on priority. We have provided our inputs to EY experts for preparation of Detailed Project Report.

We understand that SPV is required to contribute 10% towards the cost of the project including making arrangement for land for setting up the CFC. We would like to place on record our acceptance for making our contribution. Further, would like to inform that we have already identified a plot of land measuring 49,590 sqft (5510 square yards) at KFPCL, Mugal Majra, Karnal. The land shall be procured @ Rs. 6500 per sq. yards at a total price of Rs. 358.15 lakhs.

We are in the process of registration of land in the name of Karnal Dairy CFC Private Limited. We shall complete the purchase and registration of land for CFC within one month upon in-principle approval by Ministry of MSME, Govt. of India.

Yours Sincerely,

President
Karnal Dairy CFC Private Limited
Karnal, Haryana

Agro Park, Plot no. 35, Block-G, Mugal Majra Road, Karnal. Tel. : 9416032004



Annexure 6: Building estimate

VIVEK CONSULTANTS

Architects, Engineers, Interior Designer, Planners

REF. NO. VC/KDCFCPL/17517-A-R-3
DATED: 23rd JUNE 2017.

M/S KARNAL DAIRY CFC PVT. LTD.
KARNAL.

CERTIFICATE

THIS IS TO CERTIFY THAT THE ESTIMATED COST FOR CONSTRUCTION OF
M/S KARNAL DAIRY CFC PVT. LTD, KARNAL IS Rs.2,00,36,450-00 (RUPEES TWO
CRORES THIRTY SIX THOUSAND FOUR HUNDRED & FIFTY ONLY) AS PER
DETAILS ATTACHED.

VIVEK CONSULTANTS



(AR ANUPAM VINOD SHARMA)

W. No. 1224, Sector 43-B, Chandigarh (Ph. : 0172-2616146)
E-mail : vivekconsultants@yahoo.com, ar.vivekconsultants@gmail.com

REF.NO. : VC/KDCFCPU/17517-R-3
DATED: 23rd JUNE, 2017.

M/S KARNAL DAIRY CFC PVT. LTD.
KARNAL.

<u>ESTIMATE</u>					
<u>SR.NO</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>AREA</u>	<u>RATE</u>	<u>AMOUNT</u>
1	MAIN PLANT (GROUND FLOOR)	SFT	21954	375.00	8232750.00
2	ADMN. BLOCK (GROUND FLOOR)	SFT	2085	625.00	1305000.00
3	EVEPORATOR & DRAYER	SFT	7200	700.00	5040000.00
4	SECURTY	SFT	214.25	900.00	192825.00
5	MILK RECEPTION	SFT	1300	300.00	390000.00
6	ROAD	SFT	30575	45	1375875.00
7	BOILER SHED	SFT	1800	400.00	720000.00
8	UTILITIES	SFT	4950	400.00	1980000.00
9	ETP	L.S.			800000.00
TOTAL Rs.					<u>20036450.00</u>

(RS.TWO CRORES THIRTY SIX THOUSAND FOUR HUNDRED & FIFTY ONLY)


FOR VIVEK CONSULTANTS



(AR.ANUPAMVINOD SHARMA)


VIVEK CONSULTANTS
Architects Interior Designers Engineers
1224, Sector 43-B, Chandigarh

Annexure 7: Letter from Bank



ORIENTAL BANK OF COMMERCE
(A Government of India Undertaking)
Branch Office Sadar Bazar, Karnal-132001
E-mail bm0723@obc.co.in
Tel. Nos 2272907, 2271231, Fax- 0184-2271231

BM/0723/2016-17




Dated 16 03 2017

TO WHOM IT MAY CONCERN

This is to certify that M/S Karnal Dairy CFC Private Limited has been maintaining a current account no. 07231131003681 since 26 08 2016 with our branch. On request of the company we shall provide all the banking facilities to the company on merits and strictly as per bank RBI guidelines.

This certificate is being issued as per specific request of the company


Chief Manager

The Director
Karnal Dairy CFC Private Limited
Bharti Villa, Budhakhhera
Kunjpura Road
Karnal (Haryana)

Annexure 8: Machinery Quotations



Ref No. YSM/3604/22.08.2017

M/S:

EMAIL: amle9@gmail.com

KIND ATTN: MR. AMIT GARG

SUBJECT: YSM OFFER FOR MILK/ WHEY PROCESSING PLANT

Dear Sir,

This refers to your requirement regarding Milk/Whey Processing Plant. Kindly find enclosed herewith our techno-commercial offer for the same along with detail terms and conditions.

Our offer shall contain following Annexure:

Annexure-1: Equipments required for Milk/Whey Processing Plant

Annexure-2: Exclusion

Annexure-3: Price Schedule

Annexure-4: Conditions for supply of Equipments and Terms of Payments

Annexure-5: Terms and Conditions for supervision of Erection & Commissioning

Hope we are inline with your requirements. If you have any clarification then please feel free to contact us.

Thanking you and assuring you of best attention at all times, we remain.

Yours truly,

S. M. Mishra
For YSM Biotech International

Annexure-3

PRICE SUMMARY

S.No.	SECTION	TOTAL PRICE (Rs. In lacs)
A.	MILK RECEPTION SECTION	38.55
B.	MILK/WHEY PROCESSING SECTION	60.10
C.	CRYSTALIZER AND NANO FILTRATION PLANT	130.00
D.	FOUR EFFECTS FALLING FILM EVAPORATING PLANT	70.00
E.	THREE STAGE SPRAY DRYING PLANT	146.00
F.	CIP SECTION	52.20
G.	ERECTION, INSTALLATION AND COMMISSIONING (Note: Crane Charge for unloading/Loading/Erection of Equipment will be in Client Scope.)	55.00
	GRAND TOTAL PRICE (Rs. In Lacs)	551.85

Note: Price for Optional Item (Milk Chiller; Gea Make is not included in the total cost of the project.

Interconnecting Pipe, Valves and Fittings cost is approximate. You may purchase Pipe, Valves and Fittings seperatly. We will give you labour charge for pipe laying with consumables.

Annexure-4

Conditions of Supply of Equipment & Terms of Payment

1 Validity

This offer will remain valid for a period of 30 days from the date of this quotation. Thereafter is subject to our confirmation

OEM CORPORATION

WZ-274A, MADIPUR, NEW DELHI - 110063 (INDIA)

Ph: +91-11-65901876, M: +91-9818829408 Email: yadavvinod1968@gmail.com Website: www.oemcorporation.com

Date: 22.03.2017

QUOTATION

To,

Karnal Dairy CFC Pvt. Ltd.

Karnal (Haryana)

Kind Attn: Mr. Bharat

1) DETAILED QUOTATION FOR HIGH PRESSURE HOMOGENIZER

Item Description:	High Pressure Homogenizer
Make:	Donghua (China)
Model:	GYB1000-85
Flow Rate:	1000 ltrs/hr
Maximum Pressure:	80 MPa
Working Pressure:	72 Mpa
Motor Rating:	30KW, 415V, 3Phase, 50Hz

2) DETAILED QUOTATION FOR PROCESS EQUIPMENT

Pasteurization Tank

Make – OEM, India

Capacity – 1000 ltrs

Specifications – Round with jacket, insulation and geared motor 960 RPM

Quantity – 2 Nos.

Fat Melting Tank

Make – OEM, India

Capacity – 500 ltrs

Specifications – Rectangular with heating coil, jacket and insulation

Quantity – 2 Nos.

Dairy Centrifugal Pump

Make – OEM, India

Capacity – 4000 ltrs/hr

Specifications – With mechanical seal and motor 2HP

Quantity – 3 Nos.

Branch Pipes	:	HDPE Branch Pipe with perforation
Bolts/nuts/washers/Nails/Ladder	:	Hot Dipped Galvanized Steel
Mechanical equipment support and all other steel components	:	Hot Dipped Galvanized Steel
Basin	:	Reinforced Concrete Cement (By Client)

PRICE SCHEDULE: -

Sr. no.	Description	Amount
1	HIGH PRESSURE HOMOGENIZER	Rs.15,00000
2	PROCESS EQUIPMENT	Rs.15,00000
3	TURN TABLE	Rs.1,50,000
4	AIR JET CLEANING MACHINE	Rs.6,00000
5	AUTOMATIC 4 HEAD FILLING MACHINE	Rs.10,00000
6	AUTOMATIC SCREW CAPPING	Rs.5,00000
7	AUTOMATIC INDUCTION SEALING MACHINE	Rs.10,00000
8	Air Compressor 15hp	Rs. 1,50,000
9	STERILIZER	Rs. 48,00000
10	INDUCED DRAFT FRP COOLING TOWER	Rs. 70000
	TOTAL	Rs. 1,12,70,000/-

Basic Price:	Rs.1,12,70,000/- (Rupees One Crore Twelve Lakh and Seventy Thousand Only)
Tax:	CST 2% against 'C' form
Excise Duty	Extra as applicable.
Installation:	Extra as actual supervision at site against accommodation, food and local Transfers.
Payment Terms:	60% advance and balance against PI before dispatch.
Delivery:	Six months after confirmation of order along with advance payment
Insurance:	Extra as applicable
Validity:	30 days



(Vinod Kumar Yadav)
PROPRIETOR



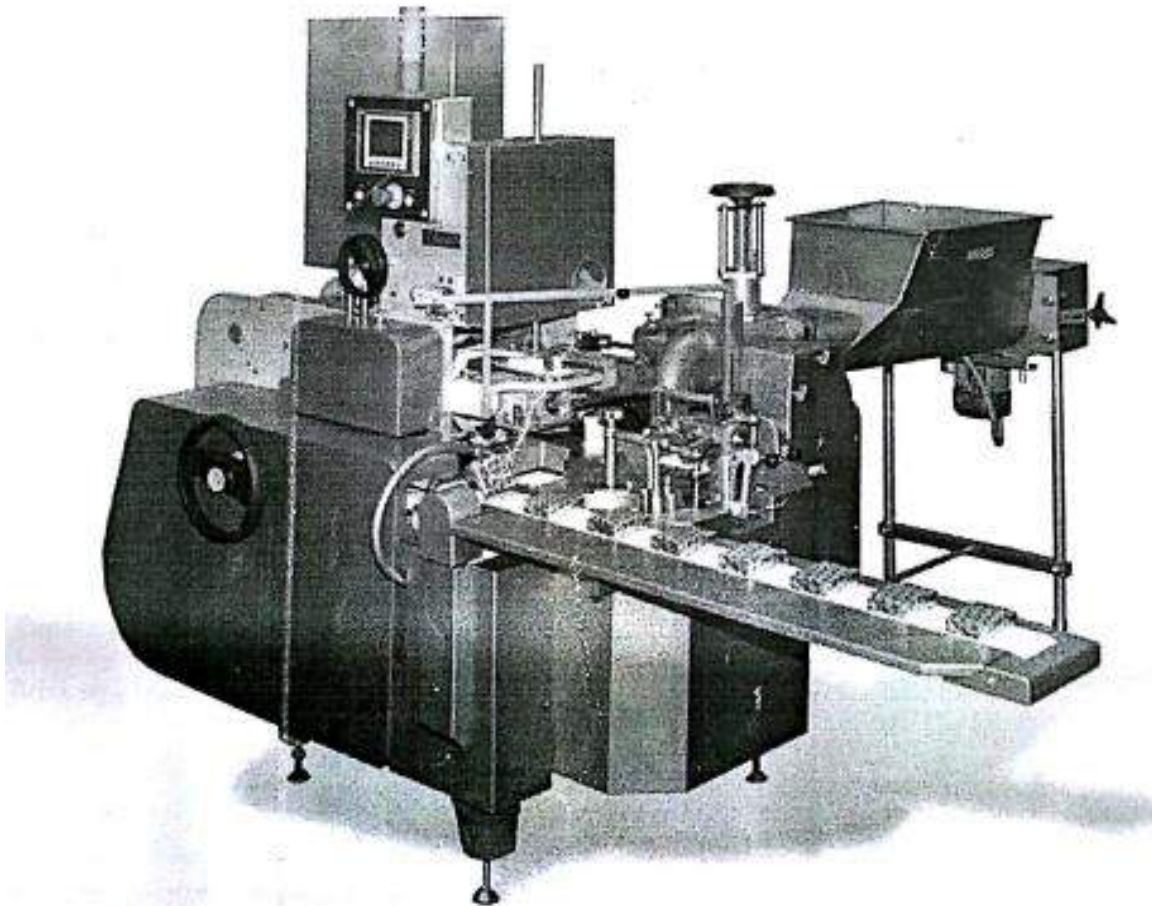


3/03/2017/K038

Karnal Dairy CFC Pvt. Ltd.,
Karnal

Kind Attn. to: Mr Himanshu Bharti

COMMERCIAL OFFER






TECHNICAL SPECIFICATION

Packed product	Butter or Margarine
Product feeding	Horizontal Hopper with Augers Or Direct feeding
Hopper capacity, kg	60
Dose mass, g	8-25g
Capacity, bricks/min	Single dosing – up to 75
Brick size (LxWxH), mm	10g - 37x30x10 15g - 37x30x15 20g - 37x30x20 25g - 37x30x25
Dating device	None
Folding type	Bottom Folding
Packaging material	Aluminum foil or parchment paper
Outer reel diameter, mm	up to 400
Thickness, mm	0,05-0,08
Safety in packaging material area	Machine stops automatically if there is no packaging



FASA® BETTER SOLUTIONS SINCE 1959

(Now standardly included in every ARM machine)



Thermo printer

Impress thermo printer available. Up to 3 lines, up to 12 symbols in one line.



QUOTATION:

Pos.	Qty	Subject	PRICE, EUR
1.	1,00	Butter/Margarine Filling and Wrapping Machine ARM 10-25g CIF New Delhi Airport	85,000.00

QUOTATION - ADDITIONAL OPTIONS:

Pos.	Qty	Subject	PRICE, EUR
1.	1	Label centering device	0,000.00 ✓
2.	1	Safety covers with locking system	10,500.00 ✓
3.	1	Automatic lubrication system SKF	6,400.00 ✓
4.	1	Siemens PLC touch screen	0,000.00 ✓
5.	1	Stainless steel inserts for windows	1,400.00 ✓
6.	1	Hopper protection sensor	1,400.00
7.	1	Hopper cover	2,000.00
8.	1	Packaging material UV disinfection lamp	0,000.00 ✓
9.	1	Impress thermo printer	5,500.00 ✓



REF. NO. : BEPL:AB:2017-18;
DATED : 02-06-2017

M/s Karnal Dairy CFC Pvt. Ltd.,
Plot No. 35, Agro Park,
Kurjipura—132023, KARNAL
Email :- g.mutreja@gmail.com
karnaldairycfc@gmail.com

Kind Attn : Mr. Gian Mutreja

Dear Sir,

With reference to your mail dated 2-06-2017 and further discussion, we are pleased to offer our services for setting up the lab for testing of milk & milk products like Milk , Cream , Butter, Powders (Whey & SNF) and has the facility to test all the required parameters like Fat, Protein, Moisture , Ph, BR readings etc., ensure best services.

Total Price : Rs. 26,50,000/- (Rupees Twenty Six Lacs Fifty Thousand Only)
Ex – our works , Greater Noida, Basic Prices.

Terms and condition sheet is attached.

Thanking you and awaiting for your purchase order.

Yours faithfully,

For BAAF ENGINEERS PVT. LTD.

[ANIL BHAN]
MANAGING DIRECTOR



Ref: _SPL/KNL/PS/0830
Date :06.03.2017

M/s KARNAL DAIRY C.F.C PVT LTD,
MUGAL MAJRA, KARNAL.

**Subject: OFFER FOR 1 KVA (CPCB- II) DG SET FITTED IN
ACOUSTIC ENCLOSURE.**

Dear Sir,

We thank you very much for your valued enquiry referred above. We are pleased to submit our offer for your kind consideration as under:

Brief Company Profile	:	Annexure I
Price Schedule	:	Annexure II
Commercial Terms & conditions	:	Annexure III
Technical Specifications	:	Annexure IV
Partial Customer List	:	Attached
Product Catalogue	:	Attached

We hope you will find the offer in line with your requirement. For any clarification, please feel free to contact us.

Thanking you and looking forward for the pleasure of receiving your valuable order.

Yours Sincerely,
For **Sudhir Power Limited.**
(formerly known as Sudhir Gensets Ltd.)

PARAMJEET SINGH
DGM-MARKETING
9996786770



PRICE SCHEDULE

S. No.	Description	Qty.	Price (Rs.)	Amount (Rs.)
1	Supply of following Silent DG sets comprising of Cummins Engine coupled to 415V Stamford make alternator both mounted on common Base frame with other standard accessories i.e. Fuel tank, Batteries with leads.			
2	a) 500KVA (Engine Model KTAA-19-G10	1 Set	28,95,000.00	28,95,000.00

Note:

- Inclusive of Excise duty @ 12.50% Any statutory variation at the time of actual dispatch shall be to your account. Octroi / Entry Tax or any other taxes and levies, if applicable shall be to your account.
- Road permits if required has to be provided by you along with your purchase order.
- Sales tax – Exempted against form C, otherwise 14.50% extra.
- Freight & Insurance **Inclusive**.
- If any items mentioned in the exclusions have been quoted then the item is excluded from the exclusions list.

or Sudhir Power Limited,

(formerly known as Sudhir Gensets Ltd.)

Authorized Signatory



Ref: _SPL/KNL/MK/0830
Date : 24.02.2017

M/s KARNAL DAIRY C.F.C PVT LTD,
MUGAL MAJRA, KARNAL.

Subject : Our offer for 1X62.5 KVA (CPCB-II) Silent DG Set

Dear Sir,

We thank you very much for your valued enquiry referred above. We are pleased to submit our offer for your kind consideration as under:

Brief Company Profile	:	Annexure I
Price Schedule	:	Annexure II
Commercial Terms & conditions	:	Annexure III
Technical Specifications	:	Annexure IV
Partial Customer List	:	Attached
Product Catalogue	:	Attached

We hope you will find the offer in line with your requirement. For any clarification, please feel free to contact us.

Thanking you and looking forward for the pleasure of receiving your valuable order.

Yours Sincerely,
For **Sudhir Power Limited.**
(formerly known as Sudhir Gensets Ltd.)

Authorized Signatory

IANISH KATHURIA
996786775

**Annexure - II****PRICE SCHEDULE**

S. No.	Description	Qty.	Price (Rs.)	Amount (Rs.)
1	Supply of 62.5 KVA Silent DG set comprising of CUMMINS make Engine Model 4BTAA3.3-G11 coupled to 415 Volts 62.5 KVA Stamford make alternator mounted on a common Base frame along with other accessories i.e., Fuel tank, Battery with leads.	1 Set	5,00,000.00	5,00,000.00

Note:

- Inclusive of Excise duty @ 12.50% any statutory variation at the time of actual dispatch shall be to your account. Octroi / Entry Tax or any other taxes and levies, if applicable shall be to your account.
- Road permits if required has to be provided by you along with your purchase order. CST Nil Against Form – C would be furnish before dispatch,
- Otherwise Sales Tax Extra @ 14.5%.
- Freight & Insurance Inclusive.
- If any items mentioned in the exclusions have been quoted then the item is excluded from the exclusions list.

For Sudhir Power Limited
(Formerly Known as Sudhir Gensets Ltd)

Authorized Signatory

Date: 23-05-2017

To

Karnal Dairy,
CFC Pvt. Ltd.,
Karnal

Dear Sir,

We are pleased to introduce Horizon provide all kind of **IT Products (Desktop, Laptop, Printers, Servers, workstations, branded with reasonable price)**. Our main focus is how we can help our clients to get more traffic and leads for their business. We provide a different set of **IT Solutions. Internet Lease Lines & AMC Support** that enables customer to focus on driving competitive advantages in their operations.

Horizon deals in **World's no 1 Ricoh Photocopier with UNBELIEVABLE PRICE (Buy Back Offer)**

Horizon Products Line:- CCTV Cameras/Computers/ Laptops/ Server/ A3 Size Photocopier/workstation/ Copy Printer/Laser & Mfp Printer/ LCD Projectors / Online & Off line Ups/Smart-School Contents / Interactive Board/ Visualizer/Reliance Data cards, Internet Lease Lines, MPLS VPN, PRI LINES, TOLL FREE NOS./Networking products/ Bio Metric Time attendance Machine.

Sr. No	Product	Qty.	Unit Price	Total	Tax Extra	Grand total
1	Hp/ Dell Desktop <ul style="list-style-type: none"> Intel core i3 6100 6th Gen.,, 4gb DDR 4 Ram 1TB HDD 18.5" TFT WIN 10 PROFESSIONAL NO DVD WRITER, KEYBOARD / OPTICAL MOUSE Warranty : 3 years onsite 	4	45000/-	180000	5.25%	189450/-
2	Hp laptop 250G5 <ul style="list-style-type: none"> Intel core i5 4gb DDR 500gb HDD 15.6" TFT WIN 10 PROFESSIONAL DVD WRITER, KEYBOARD / OPTICAL MOUSE Warranty : 3 years onsite 	01	52000/-	52000/-	5.25%	54730/-
3	HP Laserjet MFP 1005 Printer,Scanner,copier	02	14500/-	14500/-	5.25%	30523/-

4	RicohMP2014 A3 Size Photocopier	01	52000/-	52000/-	5.25%	54730/-
5	HP LaserJet 1020 Printer	03	9500/-	28500/-	5.25%	29996/-

Camera proposal

Sr. No	Product	Qty.	Unit Price	Total	Tax Extra	Grand Total
1	Hikvision 1 MP IP Bullet Camera	25	4500/-	112500/-	13.125%	127266/-
2	16ch. NVR Make : Hikvision	2	25900/-	51800/-	13.125%	58599/-
3	ACCORD Power SupplyCSPS04	6	950/-	5700/-	5.25%	5999/-
4	Cat 6 cable Make : Dlink	600 MTR	18/-	1800/-	5.25%	1895/-
5	8PORT Switch Make : D Link	3	750/-	2250/-	5.25%	2368/-
6	4TB HDD Make : WD Warranty : 1 year (Surveillance HD specially design for Camera)	2	11500/-	23000/-	5.25%	24208/-
7	RJ45 Connector Make : D Link	100	10/-	1000/-	5.25%	1053/-
8	Service charges For camras	25	500	12500/-	15% S.T.	14375/-

Grand Total	5,95,192/-
--------------------	-------------------

Terms & Conditions:-

- Quotation validity: 15 days.
- Delivery within two to three weeks.
- Payment within 10 days after receipt & installation of material
- Pan No. : AAACH4028G
- Tin No. : 06542227554
- Mobile No. : 9896457800,9896302666
- Burn & Physical Damages are not cover in warranty period, if any problem comes in the CAMERA & DVR customer will be paid.
- Dicking Charges, Pipe, Tie, Tape Roll & other Misc. items cost will be Extra & arranged by customer

We hope you will find above in order. We request you to give us a chance for all your reprographic needs & see how best HORIZON can provide solution to your needs.

Kindly contact the undersigned for any further clarification and information you may require regarding the product, we look forward for your valuable response and assuring for best of our services at all times to come.

Thanking you

For Horizon Systems & Comm. Pvt. Ltd.



Shikha
9896302666

38th Km. State, N.H. - 8, Behrampur Road, Sector - 34, Gurgaon - 122004 (Hr.)
 ☎ +91-124-2372100/200, 4031000 (5 Lines),
 📠 +91-124-2372300/4265300
 ✉ sales@indiantransformers.com, indiantransformers@gmail.com
 🌐 www.indiantransformers.com



ANNEXURE – I

ENCLOSURE TO OUR OFFER IQ/31/HS/26705-23152/T/17 DT: 20-Jun-17

ITEM:-

'ITE – INDIAN GURGAON MAKE' 1000 KVA, 11/0.433 KV, 3 PHASE, 50 HZ, ONAN COOLED OIL IMMERSSED COPPER WOUND INDOOR TYPE STEP DOWN TRANSFORMER COMPLETE WITH FIRST FILLING OF IS: 335 ISI MARKED FILTERED & DEHYDRATED TRANSFORMER OIL AND OTHER STANDARD FITTINGS / ACCESSORIES AND 17 POSITION ON LOAD TAP CHANGER (OLTC) (TAPPING RANGE +10 % TO –15 % IN STEPS OF 1.5625% EACH) WITH REMOTE TAP CUBICAL CHANGER (RTCC) PANEL & AUTOMATIC VOLTAGE REGULATOR (AVR) WITH VECTOR GROUP Dyn-11.

RATING		1000 KVA
Ex-works Price (each)	Rs.	8,60,000.00
Less Final Discount	Rs.	1,72,000.00
Discounted Ex-Works Final Price	Rs.	6,88,000.00
On Load Tap Changer (OLTC) + Remote Tap Cubical Changer (RTCC) Panel+ Automatic Voltage Regulator (AVR)	Rs.	3,25,000.00
HV Cable Box (without Cable Glands)	Rs.	5,000.00
LV Cable Box (without Cable Glands)	Rs.	10,000.00
Buchholz Relay (having Contacts for Alarm & Trip)	Rs.	7,000.00
OTT (having Contacts for Alarm & Trip)	Rs.	4,000.00
WTI (having Contacts for Alarm & Trip)	Rs.	7,000.00
Marshalling Box (having TTB Only)	Rs.	4,000.00
Grand Total	Rs.	10,50,000.00

NOTE: -

- The above offered Transformer is as per IS 2026.
- Cenvat/Excise Duty Extra @ 12.5% or as applicable at the time of despatch.
- GST/LST/VAT Extra as applicable at the time of despatch (at present CST @ 2% against Form 'C', otherwise @5.25% and LST/VAT @4.20% against form 'D-1' otherwise @5.25% (credit against VAT can be availed).
- Freight, Transit Insurance, Toll Tax, Entry Tax, Octroi, Unloading and Other Local Taxes / Levies etc. to be arranged & borne by you.
- Spare/Optional Fittings/Accessories other than as mentioned above to be charged extra as per Annexure – II.
- Optional / Extra fittings & accessories if required, must be specifically mentioned while placing the order (on extra charges – please refer to Annexure – II).
- Offered item is as per our standard specifications, in case of any change in same then the prices will be changed accordingly
- Subject to Terms & Conditions as per Annexure – III.
- E & OE.

For Indian Transformers & Electricals

38th Km. Stone, N.H. - 8, Behrampur Road, Sector - 34, Gurgaon - 122004 (Hr.)
 ☎ +91-124-2372100/200, 4031900 (5 Lines),
 📠 +91-124-2372300/4265300
 ✉ sales@indiantransformers.com, indiantransformers@gmail.com
 🌐 www.indiantransformers.com



ANNEXURE – I(A)

ENCLOSURE TO OUR OFFER IQ/31/HS/26705-23152/T/17 DT: 20-Jun-17

ITEM:-

'ITE – INDIAN GURGAON MAKE' 1000 KVA, 11/0.433 KV, 3 PHASE, 50 HZ, ONAN COOLED OIL IMMERSERD COPPER WOUND INDOOR TYPE STEP DOWN TRANSFORMER COMPLETE WITH FIRST FILLING OF IS: 335 ISI MARKED FILTERED & DEHYDRATED TRANSFORMER OIL AND OTHER STANDARD FITTINGS / ACCESSORIES AND 17 POSITION ON LOAD TAP CHANGER (OLTC) (TAPPING RANGE +10 % TO –15 % IN STEPS OF 1.5625% EACH) WITH REMOTE TAP CUBICAL CHANGER (RTCC) PANEL & AUTOMATIC VOLTAGE REGULATOR (AVR) WITH VECTOR GROUP Dyn-11.

RATING		1000 KVA
Ex-works Price (each)	Rs.	14,67,000.00
Less Final Discount	Rs.	3,66,750.00
Discounted Ex-Works Final Price	Rs.	11,00,250.00
On Load Tap Changer (OLTC) + Remote Tap Cubical Changer (RTCC) Panel+ Automatic Voltage Regulator (AVR)	Rs.	3,25,000.00
HV Termination - Bare Bushing	Rs.	5,000.00
LV Cable Box (without Cable Glands)	Rs.	10,000.00
Buchholz Relay (having Contacts for Alarm & Trip)	Rs.	7,000.00
OTI (having Contacts for Alarm & Trip)	Rs.	4,000.00
WTI (having Contacts for Alarm & Trip)	Rs.	7,000.00
Marshalling Box (having TTB Only)	Rs.	4,000.00
Grand Total	Rs.	14,62,250.00

NOTE: -

1. The above offered Transformer is as per Level-I of IS 1180:2014.
2. Cenvat/Excise Duty Extra @ 12.5% or as applicable at the time of despatch.
3. GST/LST/VAT Extra as applicable at the time of despatch (at present CST @ 2% against Form 'C', otherwise @5.25% and LST/VAT @4.20% against form 'D-1' otherwise @5.25% (credit against VAT can be availed).
4. Freight, Transit Insurance, Toll Tax, Entry Tax, Octroi, Unloading and Other Local Taxes / Levies etc. to be arranged & borne by you.
5. Spare/Optional Fittings/Accessories other than as mentioned above to be charged extra as per Annexure – II.
6. Optional / Extra fittings & accessories if required, must be specifically mentioned while placing the order (on extra charges – please refer to Annexure – II).
7. Offered item is as per our standard specifications, in case of any change in same then the prices will be changed accordingly
8. Subject to Terms & Conditions as per Annexure – III.
9. E & OE.

For Indian Transformers & Electricals

38th Km. Stone, N.H. - 8, Behrampur Road, Sector - 54, Gurgaon - 122004 (Hr.)
 ☎ +91-124-2372100/200, 4031000 (5 Lines),
 ☎ +91-124-2372300/4265300
 ✉ sales@indiantransformers.com, indiantransformers@gmail.com
 🌐 www.indiantransformers.com



**Annexure-III
TERMS & CONDITIONS**

Enclosure TO OUR OFFER IQ/31/H5/26705-23152/T/17		Dtd. 20-Jun-17
Price	Price (s) quoted is/are Ex-works	
Excise Duty	Price (s) is/are exclusive of Excise Duty. Rate of C.E.D. as indicated in our offer/Proforma Invoice is subject to change and will be charged as applicable at the time of despatch.	
GST/CST/ST/VAT	Price (s) is/are exclusive of GST/CST/ST/VAT From 'C'/ST-XV/D/ any other type of form /permit etc. (if applicable) must be sent alongwith order or before delivery otherwise we may advise the buyer to deposit the amount equivalent to 'C'/ST-XV is submitted before our Sales Tax Assessment. Buyer will be liable to pay GST/ST/CST/VAT amount with interest & penalty as per rules/demand in case their form 'C'/ST-X V/any other type of Form/Permit is not received intime/accepted by Sales Tax Authorities. Rate of GST/CST/ST/VAT as indicated in our offer/perfoPrma invoice is subject to change & will be charged as applicable at the time of despatch	
INSURANCE	T.Insurance has to be arranged by buyer at his own cost and responsibility under due intimation to us otherwise we may opt. (not necessarily) to get the Transit Insurance and charges for the same will be charged from the buyer.	
LEVIES	Octroi and other levies as applicable will be paid by the buyer. If buyer is exempted from payment of Octroi, Exemption Certificate must be send alongwith order.	
STATUTORY CHANGES	Any statutory increase in Excise Duty/Sales Tax and/or increase due to budget, Government policies and rules etc. applicable on raw material and/or final product will be to the buyer's account.	
DELIVERY	Delivery at our work with in <u>8 - 10 Weeks</u> in good faith & subject to force majeure clause. We are not agreeable for any liquidated damage/risk Purchase the date encashment of Draft/Cheque of advance amount. Holding charge @0.5% per week will be charped extra, if the buyer do not take the delivery within one week from the day of delivery date or dsate of intimation of readiness. Date of intimation readiness will be deemed as date of delivery.	
PACKING	Packing charges will be charged extra as actual. (Normally our products supplied within INDIA are unpacked).	
DESPATCH	Despatch instructions should be clearly icated while placing order.	
OUR SCOPE	To design, manufacture, perform routine tests and delivery at our works. Installation & commissioning doesn't come under our scope of work. However in case our supervision at the time o commissioning/first time energization of the product/s supplied by us, is required (it should be clearly indicated while placing the order) then an additional amount of Rs. 6000/- + Service Tax per manday, to & fro fare, Local Conveyence, lodging & boarding expenses will be charged(Payable in advane).	
PAYMENT	<u>50%</u> Advance to be made by the buyer as an advance (non returnable/non transferable) alongwith order & balance <u>50%</u> Payment alongwith all duties, vat, taxes, freight & T. Ins. etc. payment before dispatch of the material. Payment should be made by Demand Draft or Pay order payable at Gurgaon/Delhi. Interest @ 18% P.A (with daily rests) will be charged on late/delayed payment/s.	
WARRANTY	The offered material is warranted for a period <u>12 Months</u> from the date of despatch against any manufacturing defect only. The warranty will not be valid in the following events: The normal wear and tear or damages caused by accident, nature's calamity, wrong handling and imp/roper use/maintenance, tempering, any modification or alteration, repair/attempt to repair by the person not authorized by us, improper load and or input voltage other than specified, improper selection/installation/use etc. During the warranty period the part/s found defective will be repaired/replaced (at our option) at site or service center (To & Fro freight and loading & unloading at buyer's site will be arranged and borne by buer). Written notice of such defect must be given within 24 hours. OLTC, AVR, RTCC, Accessories, parts and fittings etc. of the manufactures used/supplied alongwith the said equipment/plant would be covered as per standard warranty clause of the receptive manufacturers or twelve month which ever is less. We will not be liable for any loss or damage or any affects of any accident, misuse or negligence or resulting from defective/faulty workmanship or Electricals. Warranty will be void and we will have right to lift back the supplied goods if the full and final payment is not received by us and or required valid form/s is / are not submitted with in the required period.	
VALIDITY	Our offer stands valid for <u>Seven</u> days from the date thereof.	
CANCELLATION	Cancellation of order is subject to confirmation by us in writing.	
MODIFICATION/ IMPROVEMENT	We reserve our rights to make any modifications or any improvement in the design and specifications offered without any prior intimation, which we consider useful in view of our continued efforts in Research & Development.	
GENERAL	These terms supersede terms & conditions specified customers' enquiry and/or order and/or in any manner, if any, until unless specifically confirmed by us in writing. Orders are subject to our acceptance in writing.	
JURISDICTION	Any dispute arising out of this transaction is subject to Jurisdiction of Gurgaon Courts only.	
For Indian Transformers & Electricals		
Sales Executive/ Manager.		

38th Km. Stone, N.H. - 8, Bhrampur Road, Sector - 34, Gurgaon - 122004 (Hr.)
☎ +91-124-2372100/200, 4031900 (5 Lines),
☎ +91-124-2372300/4265300
✉ sales@indiantransformers.com, indiantransformers@gmail.com
🌐 www.indiantransformers.com



IQ/31/HS/26705-23152/VCB/17

20 June 2017

M/s Karnal Dairy CFC Pvt. Ltd.
Agro Park, Kunjpura,
Karnal

Kind Attn.: Mr. Bharti

Dear Sir,

This is with reference to tele-talk had with you regarding your requirement of VCB panel of 630 Amp. We are pleased to submit our offer as per Annexures –I, I(A), II, & III along with few of our valued customers.

Hope you will find our offer most competitive and in line to your requirement. Should you require any technical/commercial information kindly do not hesitate to write or contact us.

We are looking forward for your valued order.

Thanking you & assuring you of our prompt & best services at all the times.

Yours truly,

For Indian Transformers & Electricals

Sales Executive

K

Enclosures:

1. Annexure- I (Price Schedule).
2. Annexure- I (A) (Bill of Material) for Incomer Panel.
3. Annexure- II (Optional fittings/Accessories).
4. Annexure- III (Terms & Conditions /Delivery Schedule).
5. Customer List

38th Km. Stone, N.H. - 8, Behrampur Road, Sector - 34, Gurgaon - 122004 (Hr.)
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 ✉ sales@indiantransformers.com, indiantransformers@gmail.com
 🌐 www.indiantransformers.com



ANNEXURE – I

ENCLOSURE TO OUR OFFER IQ/31/HS/26705-23152/VCB/17 DT.: 20-Jun-17

'ITE – INDIAN GURGAON MAKE' 11 KV, INDOOR TYPE, 350 MVA, 630A, VCB HORIZONTAL DRAWOUT HORIZONTAL ISOLATION FLOOR MOUNTING MOTORIZED PANEL WITH 250V MOTOR MECHANISM & 24V DC SHUNT/ CLOSE COIL WITH CT, PT, IDMT RELAY AND OTHER FITTINGS & ACCESSORIES AS PER BOM.

Description		(VCB) 630 AMP
Discounted Ex-works Final Price (each)	Rs.	2,55,000.00

DETAILED BOM ATTACHED AS PER ANNEXURE – I (A)

NOTE: -

1. The above noted rates are Ex-Works (Gurgaon).
2. Cenvat/Excise Duty Extra @ 12.5% or as applicable at the time of despatch.
3. GST/CST/LST/VAT Extra as applicable at the time of despatch (at present CST @ 2% against Form 'C', otherwise @5.25% and LST/VAT @4.20% against form 'D-1' otherwise @5.25% (credit against VAT can be availed).
4. Freight, Transit Insurance, Toll Tax, Entry Tax, Octroi, Unloading and Other Local Taxes / Levies etc. to be arranged & borne by you.
5. Spare/Optional Fittings/Accessories other than as mentioned above to be charged extra as per Annexure - II.
6. Optional / Extra fittings & accessories if required, must be specifically mentioned while placing the order (on extra charges) as these will not be possible at later stage and no changes / amendments will be entertained after placing / confirmation of order.
7. Offered item is as per out standard specifications, in case of any change in specifications then the prices will be charged accordingly.
8. Subject to Terms & Conditions as per Annexure – III.
9. E & OE.

For Indian Transformers & Electricals

38th Km. Stone, N.H. - 8, Behrangar Road, Sector - 34, Gurgaon - 122004 (Hr.)

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🌐 www.indiantransformers.com



ANNEXURE – II

ENCLOSURE TO OUR OFFER IQ/31/HS/26705-23152/VCB/17 DT. 20-Jun-17

Optional Relays/Fittings/Accessories etc. (on extra cost)

Sr. No.	Description	Amount (Rs.)
1	Auxiliary Relay - Model No. - AVA 33	6,000.00
2	8 Window Annunciator Model No. SI-801	8,000.00
4	Trip Circuit Supervision Relay Model No. JRV 911	6,000.00
5	Bus Bar - Copper (If Aluminium Bus Bar not required)	10,000.00
6	Multifunctional Meter Model No. EM6400 Conzerv Make	14,500.00
7	Audio Alarm (Hooter/Buzzer) with Alarm Accept /Reset Relay.	1,500.00
8	Battery Power Pack with Battery & in built charger for 24V Circuit	8,000.00
	For any other meters, features, accessories in addition (like TVM, MW Meter, KWH Meter, PF Meter, Frequency Meter etc.) the price will be offered as per specific requirement.	On Request

NOTE: -

1. The above noted rates are Ex-Works (Gurgaon).
2. Cenvat/Excise Duty Extra @ 12.5% or as applicable at the time of despatch.
3. GST/CST/LST/VAT Extra as applicable at the time of despatch (at present CST @ 2% against Form 'C', otherwise @5.25% and LST/VAT @4.20% against form 'D-1' otherwise @5.25% (credit against VAT can be availed).
4. Freight, Transit Insurance, Toll Tax, Entry Tax, Octroi, Unloading and Other Local Taxes / Levies etc. to be arranged & borne by you.
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7. Offered item is as per out standard specifications, in case of any change in specifications then the prices will be charged accordingly.
8. Subject to Terms & Conditions as per Annexure – III.
9. E & OE.

or Indian Transformers & Electricals



Sharma Refrigeration

Ref:-SRK/05/17 Date:-23.05.2017

QUOTATION

To
KARNAL DAIRY CFC PVT LTD.
Karnal

Sub: Quotation of split ac in capacity of 1.5 tr & 2 tr.

We are submitting you the most competitive quotation for the split ac in capacity of 1.5 tr & 2 tr with our terms as follows for below mentioned specification:

S NO.	MODEL NO	Type	MAKE	Specification	NET PRICE	QTY	Warranty
1	1.5 tr	Split Ac	VOLTAS	3 star rating	31800/-	Per pc	5 year only
2	2.0 tr	Split Ac	VOLTAS	2 star rating	40300/-	Per pc	5 year only
3	1.5 tr	Split Ac	VESTAR	3 star rating	30000/-	Per pc	7 year only

We agree to supply the above goods in accordance with the technical specifications for a total contract price mentioned above within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warranty/guarantee shall apply to the offered goods.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Terms:

- ◆ Vat inclusive.
- ◆ Standard installation of split ac with iron stand & delivery FOR Karnal municipal area included.
- ◆ Stabilizer cost extra.
- ◆ Price can be change without any prior notice.
- ◆ Validity of price mentioned above only for 15 days.
- ◆ Full payment advance.
- ◆ Extra site work (installation of copper pipes, drain pipe & electrical wire) will be charged extra.
- ◆ Electrical point will be provided by customer.

For Further Clarification please feel free to contact.

Thanks
With regards











Deals in : Air-Conditioner, Refrigerator, Ice Cream Freezer, Chisel Cooler for dairy products, Water/Bottle/Vial Cooler, Cold Room, R.D: Stabilizer, Inverter etc.
Shop No. 8-A, Gurudwara Market, Model Town, KARNAL - 132 001
Contact No. (S) 0154-0034354, (M) 94191-11755, 92155-12303
E-mail : sharma.ref_knl@yahoo.co.in / sharma.ref_knl2009@rediffmail.com



Controlled Atmospheric Technologies

Solutions for Cold Chain Industry

3rd Floor, 31- Rani Jhansi Road
New Delhi - 110055

E-mail : info@catech.in

Off. : +91-11-23516573 / 75

Fax : +91-11-23525832

Ref : CAT/NHB-CS/2017-18/05/DF/Karnal

Date : 18th May 2017

Karnal Dairy CFC Pvt Ltd.

Karnal (Haryana)

Kind Attn : Mr.Dinesh Bharti email:karnaldairycfc@gmail.com

Sub: Offer for Combo Freezer & Chiller Chamber 12 MT – Dairy Products Storage & Milk Chilling Plant 1.0 Lac LPD/
5000 LPH: Our techno-commercial quote and specifications for Energy Efficient Air Cooled Refrigeration System:

We thank you for your valued enquiry for the proposed Milk Plant and discussions held on 14.05.2017. Based on the discussions that we have had with you, and the details furnished by you, we are pleased to submit our Techno-Commercial offer for supply, installation, testing, commissioning and fine tuning of the System **Basis of Design & Commercial Offer** is attached herewith.

CAT (Controlled Atmospheric Technologies) is a fast growing company, which is based on the long working experience of its own collaborators in the field of cold storages, pack houses, frozen stores, generated, modified and controlled atmospheres. The result is a great knowledge in the construction of storage and processing gastight rooms and in monitoring the modified and controlled room levels.

The idea of forming a strong team which includes several other external professionals comes from the changes imposed by the evolution and revolution of market rules and by the new economy. That's the reason why CAT team is deliberately limited it is quick, swift and dynamic, ready to answer any specific request in the field of cold storages, processing and use of gas-sensitive products for perishable food.

We trust that our offer meets your requirements and look forward to the pleasure of meeting your good-self for finalizing the order

Regards

For Controlled Atmospheric Technologies

Accepted By

for Karnal Dairy CFC Pvt Ltd.

Injay Maggon

Managing Worker

SCHEDULE OF QUANTITIES & PRICES

S. #	Brief Description	Unit	Qty	Unit Price	Amount
A.	Combo Freezer cum Chiller Storage (12 MT)				
1.	Supply of Insulated Chamber with Sandwiched PUF Panels (150 mm), PUF Slab for Floor Insulation (100 mm), Insulated Doors, Strip Curtains	01	Set	10, 50, 000.00	10, 50, 000.00
2.	HOLDING FREEZER ROOM: Air Cooled DX Condensing Unit with Hermetic Compressor (Make: Tecumseh/ Equiv) including Imported ACU Model HEA 4002 20 6D (MOC: Aluminum Powder Coated Finish) Cooling Coil of suitable size, defrost heaters. Suction Temp. (-) 25 deg C (Cooling Capacity 4.4 kW) Input Power 3.8 kW (6 W + 2 S)	08	No	2, 50, 000.00	20 ,00, 000.00
3.	Chiller Room: Supply of Air Cooled DX Condensing Unit with Hermetic Compressor (Make: Emerson/ Equiv) Imported ACU Model HEA 3003 17 6D (MOC: Aluminum Powder Coated Finish) 3 Nos. External Rotor Fans 300 mm dia & Cooling Coil of suitable size Fin Spacing 6 mm, defrost heaters. Suction Temp. (-) 2 deg C (Cooling Capacity 5.6 kW) Input Power 3.2 kW	03	No	1, 25, 000.00	3,75, 000.00
4.	Installation, Commissioning Charges	01	Job	4, 25, 000.00	4, 25, 000.00
	Sub Total (A)				38, 50, 000.00
B.	Whey/Milk Plant 1.0 Lac LPD/ 5000 LPH:				
1.	Supply of Raw Milk Chiller (PHE) suitable for 5000 LPH (Milk Temp 5 deg C)	01	Set	2, 50, 000.00	2, 50, 000.00
2.	Insulated SS Tank for Brine (Buffer Storage 500 Litre), Milk & Brine Circulation Pumps, Interconnecting Insulated SS Piping with Valves	01	Job	3, 75, 000.00	3 , 75, 000.00
3.	Refrigeration System "Factory Built Skid Mounted Air Cooled DX Brine Chiller Plant suitable for Freon Refrigerant complete with Refrigeration & Electrical Controls, PLC, Refrigerant & Oil Charge".	03	No	27, 50, 000.00	27, 50, 000.00
4.	Installation, Commissioning Charges & Technical Civil Work	01	Job	8, 25, 000.00	8, 25, 000.00
	Sub Total (B)				42, 00, 000.00

GRAND TOTAL (A + B) Eighty Lac Fifty Thousand Only

80, 50, 000.00

QUOTATION

EFFLUENT TREATMENT PLANT

100 KL PER DAY

FOR

**M/S KARNAL DAIRY CFC PVT LTD
VILL MUGAL MAJRA DIST KARNAL (H.R)
(H.R)**

GREEN PARYAVARAN SOLUTION

Plot No. C-46

INDUSTRIAL AREA, RAIPUR KHURD

Chandigarh – 160002

Mobile: 09888262565, 09216444134

Mail. Librafibre@ymail.com

Web-www.etpplant.com

Co.pond add H.N. 127 Sector 29-A chandigarh pin-160029

PROPOSED E.T.P PLANT

Customer

M/s. KARNAL DAIRY CFC PVT LTD

**Raw Water Characteristics:
Other Characteristics as per table- I**

100KL/ per day

Source of raw water:

Effluent Water,

Proposed Effluent Treatment Scheme

The overall scheme would comprise of PRIMARY CLARIFIER, SECONDARY CLARIFIER, AERATION TANK, SAND FILTER, and CARBON FILTER (Biotech Media, Tubedek Media, Saff Media) Sludge Drying Beds, High efficiency fine pore diffusers diffused Y aeration system.

Main units design parameters:

Basic design and design assumptions are standard as per our experience.

Scope of supplies:

Scope of supply is mentioned in Table III.

SECTION WISE OF THE EQUIPMENT MECHANICAL FOR SINGLE UNIT.

Sino	DESCRIPTION	QTY.	COST
1.	Compact ETP With FRP	3 No	Rs.549,000/-
2.	Sand Filter	1 No	Rs. 70,000/-
3.	Pipeline Valve/ Flanges Accessories etc. for complete system	1 Lot	Rs. 45,000/-
4.	Erection and commissioning of plant	1 Lot	Rs. 25,000/-
5.	Twin Lobe Blower Gurunanak. 5HP	1No	Rs.70,000/-
6.	Membrane Type Diffuser	30No	Rs. 48,000/-
7.	Electrical panel	1 No	Rs. 34,000/-
8.	Feed Pump 1HP Kirloskar	3 No	Rs.45,000/-
9.	Carbon Filter	1 No	Rs. 75,000/-

PRICE PAYMENT TERMS AND CONDITONS

TOTALPRICE:

The total price mentioned in our proposal for package type Effluent treatment plant Rs. 2883000/-

PAYMENT TERMS AND CONDITIONS SYSTEM:-

The following will our payment terms for mechanical system:-

1. 40% of total mechanical equipment as an advance along with order confirmation.
2. 40% on delivery of individual items as per list.
3. 20% payment of total mechanical equipment after installation and suitable result of Effluent Treatment Plant from Pollution Control Board / any other recognized laboratory.
4. CST extra @ 1% against "C" form
("C" form will be issued within 15 days from receiving the bill.)
5. Freight extra at 'Actual'.
6. Octroi extra at 'Actual'.

OFFER VALIDITY:

Our offer price is valid for 30 days only from date signed on Purchase Order.

WARRANTY - ONE YEAR ALL PUMPS MOTORS BLOWERS.

WARRANTY-TWO YEAR COMPACT EFFLUENT TREATMENT PLANT SAND FILTER, CARBON FILTER, VALVE& FITTING

M/S GREEN PARYAVARAN SOLUTION

**PUNJAB NATIONAL BANK
INDUSTRIAL AREA-1 CHANDIGARH
RTGS NO - PUNBO 324700
A/C NO 3247002100151323
CHANDIGARH PIN-16002**



CHAHAL BOILERS PVT. LTD.

PANAURI ROAD, GHARAUNDA

TECHNO-COMMERCIAL OFFER			
Ref No.	CBPL-2061	Dated	18/05/2017
M/s	KARNAL DAIRY CFC PVT. LTD. KARNAL [Hr.]	Kind attn:	Mr. DINESH BHARTI JI

SUBJECT: Techno-Commercial Offer for **06 TPH, 17.5 Kg/Cm² (g)** working Pressure, husk & Agro Waste Fired Boiler.

Dear Sir,

With reference to the above subject, we thank you very much for giving us an opportunity to submit our Techno commercial offer for your Boiler requirement. We thank you for evincing interest in CBPL.

A Brief about "CHAHAL BOILERS PVT. LTD."

A renowned engineering establishment engaged in manufacturing of Incinerators and Industrial Process Heating Equipment and Pressure Vessels. Chahal Boilers Pvt. Ltd. is operating under the able Guidance of an expert having more than 30 + years of experience in the industry. We are a highly acclaimed manufacturer, exporter and supplier dedicated towards providing best quality products and services to its clients.

WHY US

Our organization has earned good reputation in the global market due to some exceptional factors, such as:

•	Saving of fuel and maximum utilization of fuel combustion.
•	Industry leading prices
•	Strong business ethics and values.
•	Reliable range of products
•	Adherence to international quality standards.
•	Sophisticated manufacturing facilities
•	An efficient team of professionals and Timely delivery of consignments.

ANNEXURE-V**PRICE**

We are quoting Supply of our best CBPL, Fluidized Bed, Combustion boiler, Model SUPERPAK/100 capable of generating 6,000 kg/hr of steam at Max. Working pressure of 250 PSI (17.5kg/cm²).

Total cost as mentioned in Annexure-II	<u>36.80</u>	<u>Lacs/each</u>
Total cost as mentioned in Annexure-III	<u>28.78</u>	<u>Lacs/each</u>
Total cost as mentioned in Turnkey Project	<u>65.58</u>	<u>Lacs/each</u>

Price Ex- Karnal**Payment Terms:**

For Supply of Equipment:

- 30% advance against commercially clear & confirmed order.
- 40% within 30 days
- 30% against Performa Invoice

General terms and Conditions:

- CST/VAT/GST as applicable against relevant sales tax form shall be charged extra. Similarly E duty as applicable shall be charged extra.
- Note: On site IBR formalities in client scope.

For CHAHAL BOILERS PVT. LTD.

Accepted by Client

Mob. +919315681860, +919354655552

Chahal Boilers Pvt. Ltd., Panauri Road, Gharaunda - 132114- Karnal (Haryana)
Phone: +91-93156-81860/ +91-93546-55552
E mail: chahalboilers28@gmail.com Web: www.chahalboilers.net

METRO MOTORS PVT. LTD.		TATA MOTORS
Commercial Vehicle Dealer		
VEHICLE QUOTATION		
Quotation No. (M) <u>14716</u> Date <u>23/05/17</u>		
<u>Karnal Dairy Cfl. P.O. 1980</u> <u>Kundhara Road</u> <u>KARNAL</u>		
DESCRIPTION	QTY.	RATE (RS.)
TATA Model <u>L1T 407 Ex-2/38/CAB</u>	<u>(02)</u>	<u>1996782.</u>
with Standard specifications as supplied by the manufacturers with G.B.S. _____ Gear Bpx and with _____ No. tyres Size _____	<u>998391/52</u>	
Price inclusive of Excise Duty and first point Sales Tax.	<u>Br Veh.</u>	<u>120782</u>
NOTE : <u>2 Hrs. 60000/- x 2</u>		
1. Payment by demand draft in favour of METRO MOTORS PVT. LTD. payable at AMBALA CANTT.		
2. The above price is subject to change without notice and the price applicable at the time of delivery of the vehicle will be payable by you.		
3. This is to inform all our esteemed customers that any advance payment is our own liability and our principles M/s. Tata Motors are in no way implicitly or explicitly responsible for any vicarious for the refund of advance or delivery of vehicle thereof as they deal with us on a "Principle to Principle basis."		
BY THE ORDER OF MANAGING DIRECTOR : METRO MOTORS (P) LTD. MOHRA (AMBALA)		
TOTAL		<u>18,76,000</u>
Rupees : _____		
Remarks : _____		
FOR METRO MOTORS PVT. LTD. <u>(Authorized Signatory)</u>		
Note: Any extra item not other than standard supply will be charged extra as per the applicable price.		
Head Office: 108, 8th Floor, 2/1 Road, 4th & 5th Floor, Mohra, Ambala 150 004, Haryana. Phone: 0174-2222222, 0174-2222222, 0174-2222222, 0174-2222222. Branch Office: 108, 8th Floor, 2/1 Road, 4th & 5th Floor, Mohra, Ambala 150 004, Haryana. Phone: 0174-2222222, 0174-2222222, 0174-2222222, 0174-2222222. Registered Office: 108, 8th Floor, 2/1 Road, 4th & 5th Floor, Mohra, Ambala 150 004, Haryana. Phone: 0174-2222222, 0174-2222222, 0174-2222222, 0174-2222222.		
Commercial Vehicle Workshop & Sales Office System		
Karnal Office Shop No. 1980, P.O. 1980 Kundhara Road Karnal-130 110 Haryana Phone: 0174-2222222	Ambala Office Shop No. 1980, P.O. 1980 Kundhara Road Ambala-150 004 Haryana Phone: 0174-2222222	Mohra Office Shop No. 1980, P.O. 1980 Kundhara Road Mohra-150 004 Haryana Phone: 0174-2222222
Faridkot Office Shop No. 1980, P.O. 1980 Kundhara Road Faridkot-143 001 Punjab Phone: 0182-2222222	Amritsar Office Shop No. 1980, P.O. 1980 Kundhara Road Amritsar-143 001 Punjab Phone: 0182-2222222	Delhi Office Shop No. 1980, P.O. 1980 Kundhara Road Delhi-110 001 India Phone: 011-2222222

METRO MOTORS PVT. LTD. **TATA MOTORS**
Commercial Vehicle Dealer

VEHICLE QUOTATION

Karnal Dairy GPC Rd 1402
Kunapur Road
KARNAL

Quotation No. : (M) 14717
Date : 23/05/17

DESCRIPTION	QTY.	RATE (RS.)
TATA Model <u>GPC 407 PCK-UP CAB</u>	<u>02</u>	<u>6,89,755 X 2</u>
with Standard specifications as supplied by the manufacturers with G.B.S. _____ Gear Box and with _____ No. Tyres Size _____		<u>1361510-00</u>
Price inclusive of Excise Duty and first point Sales Tax.		<u>60,000 -</u>

NOTE : Discont 30000 X 2/64

1. Payment by demand draft in favour of METRO MOTORS PVT. LTD. payable at AMBALA CANTT.
2. The above price is subject to change without notice and the price applicable at the time of delivery of the vehicle will be payable by you.
3. This is to inform all our esteemed customers that any advance payment is our own liability and our principles M/s. Tata Motors are in no way implicitly or explicitly responsible for any vicarious for the refund of advance or delivery of vehicle thereof as they deal with us on a "Principle to Principle basis."

BY THE ORDER OF MANAGING DIRECTOR : METRO MOTORS (P) LTD. MOHRA (AMBALA)

TOTAL 1301510-00

Rupees : _____

Remarks : _____

FOR METRO MOTORS PVT. LTD.
(Authorized Signatory)

Note : Any extra fitment other than standard supply will be charged extra as per the applicable price.

Head Office : 100, 80th Street, G.T. Road, 100, 2nd Floor, Mohra, Ambala-150 004, Haryana. Tel: 0174-2255111, 2255112, 2255113, 2255114, 2255115, 2255116, 2255117, 2255118, 2255119, 2255120, 2255121, 2255122, 2255123, 2255124, 2255125, 2255126, 2255127, 2255128, 2255129, 2255130, 2255131, 2255132, 2255133, 2255134, 2255135, 2255136, 2255137, 2255138, 2255139, 2255140, 2255141, 2255142, 2255143, 2255144, 2255145, 2255146, 2255147, 2255148, 2255149, 2255150, 2255151, 2255152, 2255153, 2255154, 2255155, 2255156, 2255157, 2255158, 2255159, 2255160, 2255161, 2255162, 2255163, 2255164, 2255165, 2255166, 2255167, 2255168, 2255169, 2255170, 2255171, 2255172, 2255173, 2255174, 2255175, 2255176, 2255177, 2255178, 2255179, 2255180, 2255181, 2255182, 2255183, 2255184, 2255185, 2255186, 2255187, 2255188, 2255189, 2255190, 2255191, 2255192, 2255193, 2255194, 2255195, 2255196, 2255197, 2255198, 2255199, 2255200, 2255201, 2255202, 2255203, 2255204, 2255205, 2255206, 2255207, 2255208, 2255209, 2255210, 2255211, 2255212, 2255213, 2255214, 2255215, 2255216, 2255217, 2255218, 2255219, 2255220, 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For A-One Engineers

(Authorised Signatory)

Annexure 9: Minutes of Meeting - Validation meeting of Detailed Project Report (DPR) of Karnal Dairy Cluster under MSE-CDP scheme of DCMSME

Date: 3 rd July 2017	Time: 7:00-8:00 PM	Venue: Karnal Club, Karnal
Agenda: <ul style="list-style-type: none"> ➤ Discussion on the Draft DPR of Karnal Dairy Cluster ➤ Discussion on proposed facilities in the CFC particularly plant and machineries ➤ Validation of recommendations by key stakeholders 		
Attendees <ul style="list-style-type: none"> • Mr Major Singh, Director, MSME-DI Karnal • Mr R C Dahra, Consultant (Clusters) Department of Industries & Commerce, Govt. of Haryana • Mr Sunil Kumar, Deputy Director, MSME-DI • Mrs. Sunita Katyal, IEO, DIC Karnal • Officers of Corporation Bank, Karnal • Members of Karnal Dairy CFC Pvt. Ltd • Representatives of Karnal Dairy Units 		

Members of Karnal Dairy CFC Pvt. Ltd (SPV) welcomed Mr. Major Singh, Director, MSME-DI Karnal; Mr. R C Dahra, Consultant (Clusters), Department of Industries & Commerce, Govt. of Haryana and other participants. Mr Dinesh Bharti (member of Karnal Dairy cluster) extended gratitude to Department of Industries, Govt. of Haryana, EY team & MSME-DI, Karnal for putting their efforts to prepare DPR for dairy cluster in time.

EY team had shared the Draft DPR of Karnal dairy cluster with stakeholders. The participants discussed the summary details of DPR. Mr. Dahra highlighted state government's proactive role in ensuring growth of the state's MSMEs and leveraging grants under GoI schemes for promotion of MSMEs. He provided an overview of the cluster and elaborated on various aspects of the proposed project. The major project component as highlighted are mentioned below:

1. **Land:** The requirement has been estimated as 5510 sq. yards and the SPV has identified a plot of land in Mugal Majra, about 8 kms from NH1 (Karnal). SPV is in the process of registration of land in the name of Karnal Dairy CFC Pvt. Ltd.
2. **Building:** A mix of RCC and pre-fabricated structure is required to install the machineries proposed at CFC. Total covered area of 70081.25 sq ft is required for the CFC, building layout and estimate has been prepared and included in the DPR.
3. **Plant and Machinery:** 4 facilities have been proposed at CFC in the DPR. These are: Whey drying, cream homogenization and packaging, butter chipllet packaging and testing facilities. These facilities will enable the cluster units manufacture value added products and cater to a larger market segment.

Further, the role of SPV in executing the project was highlighted. Participants were informed that cluster units have registered a SPV by the name and style of 'Karnal Dairy CFC Pvt Ltd' to implement MSE-CDP in Dairy cluster. SPV has also involved in capacity building, exposure visits, technical trainings etc. of members. SPV has proved its ability to undertake hard intervention under the project and is geared up to take the project to its logical conclusion.

Discussion and Action Points

► **Machinery:** The cluster elaborated on the need for various machines to upgrade the product quality and diversify their products at the cluster level. The following points were further discussed:

- Mr Dahra inquired about the usage of the proposed machines by the cluster units. The SPV members informed that each machine will be used by members of CFC as well as non-members of dairy cluster on daily basis.
- Mr. Gian Chand Mutreja of Modern Dairy Karnal, informed the participants the environmental impact of whey discharge in sewerage and explained the need of whey drying facility at CFC. He further elaborated the need of butter chiplet and cream packaging facility to increase the shelf of perishable dairy products and the benefits available to units under CFC.
- Working model of CFC was also explained to the members. Participants were also informed that the cluster units will bring their own raw materials to get the job work done on various machines at the CFC by paying user fee as decided by SPV. CFC will also be open to non-members. SPV shall fix charges for members and non-members separately.

Finally, SPV members validated the recommendations as mentioned in the DPR and gave consent for submission of DPR to state government for further actions.

In concluding remark, Mr Dahra appreciated the efforts of member of dairy cluster for coming together to form SPV and extending support for completion of DPR. He urged SPV members to retain their passion and energy to overcome the obstacles of setting up the CFC. He acknowledged that proposed CFC will enable the cluster units become more competitive and diversify their products. Facilities at CFC will enable micro and small dairy units to expand their market in the region.

He assured the support of Government of Haryana in realizing the CFC. He also assured the participants about the approval process of DPR by State Level Project Steering Committee, which will be conducted at the earliest.

1. List of participants:

KARNAL DAIRY CHC PRIVATE LIMITED (VALIDATION OF DPR) Date: 03-07-2017 at KARNAL CLUB KARNAL						
Sr No	Name of Unit	Address of unit	Name of Participant	Mobile No	E-Mail	Signature
1	SINOLI Dairy	MIDC, KARVAL	Singh, Manu	9811156055		Singh, Manu
2	Budhram	INDRA	Shiv Singh	9666722493		Shiv Singh
3	Ganesh Dairy	INDRA	Karnam	9416701004		Karnam
4	Agarwal	INDRA, MIDC, KARVAL	Agarwal	0968580083		Agarwal
5	M. K. Singh	INDRA	Shiv Singh	9416701004		Shiv Singh
6	Bhola Dairy	Convent, Choudh Kila	Bhola Singh	9416701004		Bhola Singh
7	Model Dairy Farm	NDAS, Karnal	Girish Mishra	9992000251	j.mishra@ndas.gov.in	Girish Mishra
8	Cooperative Dairy	Agarwal, MIDC, KARVAL	Vijay Kumar	9416701004		Vijay Kumar
9	IV Pradhan Dairy	Karnal, MIDC	Pradhan, Manu	9416701004	manu.pradhan@karnal.gov.in	Pradhan, Manu
10	Karnal Dairy	Karnal	Pradhan, Manu	9992000251	manu.pradhan@karnal.gov.in	Pradhan, Manu
11	Himanshu		Himanshu	9888888888	himanshu@karnal.gov.in	Himanshu
12	Cooperative Dairy	Karnal	Choudhary, Manu	9416701004	manu.choudhary@karnal.gov.in	Choudhary, Manu
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14	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
15	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
16	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
17	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
18	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
19	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
20	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
21	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
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23	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
24	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
25	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
26	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
27	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
28	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
29	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
30	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
31	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
32	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
33	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu
34	Cooperative Dairy	Karnal	Pradhan, Manu	9416701004		Pradhan, Manu

2. Photographs of DPR Validation meeting



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