

Model DPR

**Detailed Project Report for establishment of
New Dairy Plant of 300 TLPD capacity under
Dairy Infrastructure Development Fund (DIDF)
scheme**

XYZ Cooperative Milk Union, JKL

January, 2018

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Project at a Glance

Name of Milk Union : XYZ Co-operative Milk Union

I. Eligibility Criteria for End Borrower

A	Financial	Remarks
1	Audit of accounts should be up-to-date and the auditor's observations should not contain any adverse opinion or disclaimer. (FY 2016-17)	Yes
2	EB should not be in a default to any bank/ financial institution on the date of applying for loan.	No overdues
3	All outstanding dues to producer members should not exceed four payment periods.	Yes. Does not exceed one payment cycle
4	EB should have positive net worth.	Yes
5	EB shall provide its consent for assignment, in favour of NABARD, of all securities taken by NDDDB for securing its loan. In case of reassignment, cost involved shall be recovered from eligible end borrower.	Yes. Consent is provided (document attached separately)
6	The financial returns of the project should meet the requirements decided by NDDDB.	Yes
7	EB does not have any receivable over one year from the State Government	No receivable
B	Institutional/ Governance	
1	EB has a duly constituted Governing Body such as Board of Directors/Management Committee as applicable to the legal form of the eligible end borrower.	Yes. Board of Directors
2	EB has a full time Chief Executive/Managing Director (or equivalent) and adequate number of qualified technical and managerial personnel at key positions.	Yes. CEO (on deputation from Federation)
3	EB does not have any Director on the Board who has defaulted to any bank/ financial institution.	No such Director on Board
C	Technical	
1	Should have required environmental/ statutory clearances for setting up of plants.	Yes
2	Should have its own land/ long term lease, free from encumbrances, in case of setting up of new plant or expansion of existing plant. In case of lease, requisite No Objection Certificate from the concerned authority for mortgage to NDDDB would have to be obtained.	Yes. Own land at new location. (Encumbrance free land)

II. General Information about Milk Union

1	Legal form of Milk Union	:	Milk Cooperative (registered under State Co-operative Societies Act, 1959)
2	Year of Registration	:	1986
3	Area of Operation (Districts/Talukas)	:	ABC and KLM districts
4	Name of Managing Director	:	Smt./ Shri. _____

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III. Past Performance & Future Projections

a. Coverage of Milk Union

No.	Particulars		Unit	Base Year (2016-17)	Future Projections				
					2017-18	2018-19	2019-20	2020-21	2021-22
1	Village Level Institutions	Organised DCS	Nos.	690	710	730	750	770	790
		Functional DCS	Nos.	680	700	720	740	760	780
2	Village Coverage	Functional DCS	Nos.	680	700	720	740	760	780
3	Producer Members	Functional DCS	'000 Nos.	125	130	135	140	145	150
4	Pourer Members	Functional DCS	'000 Nos.	100	104	108	112	116	120
5	Total pourer members	Functional DCS	'000 Nos.	120	127	130	135	140	140

b. Milk Procurement

No.	Particulars	Unit	Base Year (2016-17)	Future Projections				
				2017-18	2018-19	2019-20	2020-21	2021-22
1	Milk procurement from Functional DCS	TKgPD	350	390	433	480	530	585
2	Bulk milk procurement	TKgPD	80	78	76	70	67	65
3	Total average annual milk procurement	TKgPD	430	468	509	550	597	650

c. Sale of liquid milk & milk products

No.	Particulars		Unit	Base Year (2016-17)	Future Projections				
					2017-18	2018-19	2019-20	2020-21	2021-22
1	Liquid milk sale	Average Annual Liquid Milk Sale	TLPD	350	376	398	422	452	479
		Bulk milk sale	TLPD	0	0	0	0	0	0
		Total	TLPD	350	376	398	422	452	479
2	Sale of Value Added Products	Paneer	MTPD	1.09	1.31	1.57	1.89	2.23	2.64
		Buttermilk	TLPD	4.53	5.21	5.99	6.89	8.14	9.61
		Flavoured milk	TLPD	1.15	1.27	1.40	1.54	1.68	1.84
		Lassi	TLPD	3.78	4.12	4.49	4.90	5.30	5.74
		Dahi	MTPD	52.44	59.26	66.96	75.67	84.97	95.42

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IV. Project Proposal

a. Dairy Processing Infrastructure

No.	Particulars	Existing Status (As on date _/_/____)		Proposed under the project			Total Capacity by 2019-20
		No. of plants	Existing Capacity (TLPD)	New/Expansion/Refurbishment	No. of plants	Capacity (Incr.)	
a.1	Milk Processing Plant	1	300	New	1	300	600
				Expansion	0	0	0
				Total	1	300	600

b. Chilling Infrastructure Capacity

No.	Particulars	Existing (As on date _/_/____)		Proposed		Total Capacity by 2019 -20 (TLPD)
		Existing Numbers (Nos.)	Existing Capacity (TLPD)	Proposed BMC Numbers (Nos.)	Proposed Capacity (Incremental) (TLPD)	
a	Bulk Milk Coolers (BMCs)	70	200	520	260	460
b	Chilling Centres	1	20			20
Total (a + b)			220			480

V. Key Performance Indicators

No.	Key Performance Indicator	Unit	Base Year (2016-17)	Cumulative Targets		
				2017-18	2018-19	2019-20
1	Litres of water used per litre of milk processed	Litres				
2	Units of electricity consumed per litre of milk processed	Unit/litre of milk				
3	% reduction in effluent per litre of milk processed	%				
4	Treated effluent water recycled as % of total effluent generated	%				
5	Reduction in expenditure on fuel per litre of milk processed (at constant base year price)	Rs./litre of milk				
6	Milk used in packed liquid milk	TKgPD				
7	Milk used for manufacturing of Value Added Products (VAP)	TKgPD				
8	Villages covered through BMCs	Nos.				
9	MBRT of BMC milk at	Minutes				

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No.	Key Performance Indicator	Unit	Base Year (2016-17)	Cumulative Targets		
				2017-18	2018-19	2019-20
	dairy dock					
10	Share of member's income in Unions sales realisation*	%				
11	Average procurement price paid to milk producers (@4.5% fat and 8.5% SNF)	Rs. per Kg				

*Formula to be used = (Cost of raw materials after stock adjustments/Sale realisation from milk & milk products) X 100

VI. Financial Outlays of the project (Rs. Lakh)

No.	Particulars	2017-18	2018-19	2019-20	Total
A	Modernisation & creation of Dairy Processing Infrastructure				
A1	New liquid milk processing plant (3 LLPD)	3316	4974	0	8290
	Sub-total (A)	3316	4974	0	8290
B	Chilling Infrastructure (BMCs)	884	1326	2210	4420
C	Electronic Milk Adulteration Testing Equipments	156	234	390	780
	Total (A+B+C)	4,356	6,534	2,600	13,490
	Union's contribution (20%)	871	1,307	520	2,698
	Project contribution (80%)	3,485	5,227	2,080	10,792

VII. Financial Status (Figures in Rs. Lakh)

No.	Particulars	Past Performance		
		2013-14	2014-15	2015-16
1	Annual turnover	53070	59310	65826
2	Share capital	806	887	1015
3	Net profit	380	426	496
4	Accumulated Net Profit/ Loss (-)	380	426	496
5	Net-Worth	2370	2465	2790

VIII. Project Financial Analysis

No.	Financial Indicators	Base case	Sensitivity (10% reduction in procurement & sales)	Norms
1	Net Present Worth (Rs. lakh)	2787	2787	Should be +ve
2	Return on investment (RoI)	14.34%	12.82%	>10%
3	Debt Service Coverage Ratio (DSCR)	2.45	2.28	>1.50

1. Introduction

1.1 Overview of the Union

XYZ Cooperative Milk Union was established in the year 1986. The area of operation of the Union is two districts of the State, namely ABC and KLM. The Union strives towards strengthening the livelihood of farmers in the region through dairying.

The Union procures milk through a network of 680 functional DCS having 1.25 lakh milk producer members. During 2016-17 the Union procured 350 TKgPD milk from its operational area and purchased about 80 TKgPD milk in bulk from other Milk Unions to meet the demand for packed liquid milk & milk products.

Detail of profile of operational area of Milk Union in comparison to State is given at **Annex I**.

1.2 Past performance of the Union

As on March 2017, the Union has 690 organised DCS of which 680 are functional. About 1.25 lakh milk producers are members of DCS with 28% women members (0.35 thousand women members). Milk procurement and liquid milk sale of the Union is increasing at 16% and 5% CAGR respectively over past 4 years.

The Union provides input services like delivery of AI services, supply of cattle feed & feed supplements, animal health care, etc. to its producer members to help in improving the productivity of milch animals. Details of past performance of the Union are given in the Table below:

Table 1: Past performance of the Milk Union

No.	Particulars	Unit	Past performance				
			13-14	14-15	15-16	16-17	CAGR
1	Functional DCS	Nos	648	658	670	680	2%

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No.	Particulars	Unit	Past performance				
			13-14	14-15	15-16	16-17	CAGR
2	Producer members	'000 Nos	110	114	120	125	4%
3	Milk procurement	TKgPD	225	255	290	350	16%
4	Liquid milk sales	TKgPD	300	305	320	350	5%
5	Major Input services						
	- Cattle feed	MT per year	55431	60933	64811	75603	11%
	- AI done	'000 nos	200	208	241	248	7%

1.3 Milk procurement

The estimated milk production in the operational area of the Union is about 15 Lakh KgPD, of which about 50% is available as milk marketable surplus (7.5 Lakh KgPD). Major portion of milk in the operational area is procured by the unorganised players (about 3.2 Lakh KgPD). Organised private players procure about 1 Lakh KgPD of milk from the operational area.

Private players like Player 1 Player 2, Player 3 and some agents/vendors are also operating in the operational area of the Union. The private players offer milk price in the range of Rs. 25 to 30 per litre of milk to milk producers. Of the total marketable surplus available in the operational area of the Union, 47% is procured by the Union, 14% by major private players and about 43% of milk is collected by unorganised players.

The Union has 1 chilling centre of capacity 20 TLPD and 70 BMC of capacity 200 TLPD. About 200 TKgPD of chilled milk is received through tankers and 130 TKgPD of milk through Cans. The average MBRT for chilled milk received through CC and BMC is 50 minutes and 60 minutes respectively and for milk received through Cans is 50 minutes.

The Union receives milk from its DCS with average 4.5% fat and 8.5% SNF. Milk Procurement price paid by the Union is Rs. 600 per Kg fat. In the interval of every 10 days, milk bill is paid to the milk producers.

1.4 Milk processing

At present, the Union has a processing plant of 300 TLPD capacity at PQR city. The plant was established in the year 1990. The Union manufactures milk products like butter, curd, lassi and flavoured milk in the existing plant.

At present, the plant capacity is over utilized with flow of incremental milk to the Union. In order to handle additional milk received at the dairy, the Union is proposing to establish a new dairy plant of 300 TLPD capacity.

1.5 Marketing of liquid Milk & Milk Products

The Union sells packed liquid milk through retail outlets, franchises and exclusive milk parlours under the brand name 'XYZ Milk'. The Union has a network of 430 retailers, 30 parlours and 50 franchises in its operational area. During 2016-17, the Union sold about 350 TLPD of liquid milk in 5 cities in its operational area. Liquid milk variants like toned milk, full cream milk & homogenised milk and products like curd, lassi, buttermilk, flavoured milk, paneer & peda are marketed in the urban centres.

1.6 Projected growth in milk procurement and sales

The Union has projected growth in milk procurement and liquid milk sales as given in the table below:

Table 2: Projected milk procurement and sales

Sr.	Particulars	2016-17(base year)	2017-18	2018-19	2019-20	2020-21	2021-22
1	Milk procurement (TKgPD)	430	469	508	550	597	649
	By Union in its operational area	350	390	433	480	530	585
	Bulk purchase from other Unions	80	78	76	70	67	64
2	Liquid Milk sale (TLPD)	350	376	398	422	452	479

1.7 Assistance received by the Union for Dairy Development Activities

- Grant received by the Union under various central Government schemes over last 3 years is given in the table below:

Table 3: Assistance received by the Milk Union under various schemes

Scheme name	Grant Amount (Rs. lakh)	Union's share (Rs. lakh)	Purpose
NPBBDD	700	0	Strengthening of Cooperative network at village level
RKVY	200	0	Increasing productivity of bovines in operational area
NDP I	750	550	Village Based Milk Procurement Systems

- Long term borrowings from NDDB and other Banks/ Financial institutions:

The detail of long term borrowings by the Milk Union is given in the table below:

Table 4: Long term borrowing by the Union

Name of Agency	Amount received (Rs. in lakh)	Purpose
NDDB	214.64	Refurbishment of chilling centre
UVW Bank	1399.73	Refurbishment of existing dairy plant

1.8 Ongoing projects

- At present, the Union is refurbishing its existing milk processing plant by availing loan from UVW Bank, which is expected to be completed by mid of 2017-18.

2. Objective of the Project

The objective of the project is to establish a state-of-art milk processing plant of 300 TLPD capacity with modern and energy

efficient technology, thereby giving optimum value of milk to milk producers and supply of quality milk to consumers.

3. Project Area

The proposed activity would be implemented in the operational area of the Union. The new dairy Plant is proposed to be established at LMN location for which the Union has already purchased the land. The list of villages where BMC and electronic milk adulteration testing equipment would be installed is given at **Annex II**.

4. Beneficiaries

After implementation of the project, there would be increase in sales realization, which would be passed on to the milk producers in form of increased milk procurement price. During 2016-17, the Union has passed on 78% of the sales realization to milk producer as a cost of raw material (milk), which is expected to increase to 80% by end of the project period. Further, consumers would be benefitted due to availability of better quality milk and milk products in the market.

5. Project Components

5.1 Activities proposed

The activities proposed under the project are:

- Establishment of new dairy plant of 300 TLPD capacity:
It is proposed to establish a new dairy plant of 300 TLPD capacity to handle projected milk flow to the Union.
- Strengthening of Chilling infrastructure:
It is proposed to strengthen the milk chilling infrastructure by installing additional 520 BMCs of 0.5 KL capacity each at village level. Total additional Chilling capacity of 260 TLPD is proposed to be created by 2019-20.

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- Installation of Electronic Milk Adulteration Testing equipment:

It is proposed to install 520 Electronic Milk Adulteration Testing equipment at each BMC locations.

5.2 Rationale

The Union procures milk from producer members through a network of DCS and sells safe and quality milk & milk products at reasonable prices to consumers in the market. The Union is expected to procure and handle about 600 TLPD milk by 2021-22, of which a large proportion will be processed and sold as liquid milk (about 5 LLPD). Due to space constraint and old design, there is no scope for expansion of existing plant. Therefore, a new plant of capacity 300 TLPD equipped with state of art technology has been proposed under this project. *(In case, the EB is proposing higher growth rate in milk procurement and sales, suitable justification in this regard may be provided)*

At present, the Union procures about 60% of milk through its chilling centre & BMCs with combined capacity of 220 TLPD. By 2019-20, the Union proposes to convert all milk procurement routes into can less routes and handle 100% of its milk procured through robust chilling infrastructure by installing additional BMCs of 260 TLPD capacity. In addition, to minimize the incidence of adulterated milk received at the village level, electronic milk adulteration equipment at BMC locations has been proposed.

Keeping in mind the concerns of milk producers and consumers, Milk Union pass on the maximum share of sales realisation (about 78%) to milk producers and makes available safe milk to the consumers at an affordable price by operating on a thin margin (about 1%). In order to sustain the operation, Union requires soft credit under this project for creation of new dairy

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processing infrastructure so as to remain competitive in the market and help in socio-economic development of small & marginal milk producers.

6. Manpower requirement

6.1 Existing Manpower

The Union has total manpower strength of 639, of which 73 are officers, 132 are staff and 434 are workers. There are total 9 sections in the Union. The day to day operations of the Union is looked after by a Managing Director, who is on deputation from State Milk Federation.

Section wise existing manpower strength is given in table below:

Table 5: Section wise existing manpower of the Milk Union

Section	Officers		Workers		Staff		Total	
	Regular	Contract	Regular	Contract	Regular	Contract	Regular	Contract
Administration	3	-	4	6	10	-	17	6
Accounts	2	-	3	-	12	-	17	-
P&I	35	-	4	-	24	-	63	-
Marketing	5	-	6	-	15	-	26	-
Purchase/Store	1	-	11	2	6	-	18	2
MIS	2	-	-	-	1	-	3	-
Plant/Production	15	-	25	347	20	-	60	347
Quality Control	5	-	13	-	7	-	25	-
Engineering	5	-	13	-	37	-	55	-
Total	73	-	79	355	132	-	284	355

The Organogram of the Milk Union is given in **Annex III**.

6.2 Manpower required

The Union proposes to setup an automated milk processing plant of 300 TLPD which will require minimum manpower support to operate and manage the plant. About 7 Officers and 13 staff are required to operate the automated plant. The casual labour required for the plant would be hired on daily job work basis.

The Union will manage all administrative operations through the existing manpower.

6.3 Manpower recruitment & schedule

On approval of the project proposal, a detailed recruitment and training schedule will be prepared to deploy the technically competent trained manpower in plant operation well before the plant is handed over to the Union.

7. Environmental and Social aspects

The plants will use state-of-the art technology resulting in considerable reduction in energy and water usage compared to conventional dairy plants. The plants will use agri-waste as boiler fuel in replacement of fossil fuels like coal, fuel oil etc. These measures will help in substantially reducing the carbon foot print of the plant.

Improved systems at new processing facility would help recirculation of water in dairy plants so as to reduce water consumption. It will also help in reducing milk solid waste. This will reduce the volume of effluents generated in the plant and methane emission.

The land proposed for establishment of new plant under the project is owned by the Union and is encumbrance free. The project will not require any rehabilitation and resettlement of people in the project area.

8. Milk & Milk products manufacturing

The Union at present processes milk into toned milk, full cream milk and homogenized milk. The Union also manufactures milk products like curd, lassi, buttermilk, flavoured milk (flexi pack), peda and paneer.

In new plant along with packing of pasteurized liquid milk of above variants, capacity for manufacturing of products like curd, butter milk and paneer would setup. Flavoured milk in flexi pouch would be packed in the liquid milk packing facilities available in the new plant.

9. Milk & milk products marketing

9.1 Demand of milk & milk products

At present, the Milk Union is covering 5 cities for marketing of its milk & milk products. The milk demand in these cities is about 700 TKgPD. At present, the Milk Union is catering to about 50% of the market demand. The demand for milk & milk products has been rising, commensurate with increase in the purchasing power of people, increasing urbanization, changing food habits & life-styles and demographic growth. With these increasing demand drivers, it is estimated that the demand for milk & milk products will grow at a faster rate in future and would grow to about 1000 TLPD by 2019-20 in these cities. The Union targets to cover about 60% of the market demand by 2021-22 in these cities.

9.2 Marketing Strategy

The Union is promoting its milk and milk products by placing hoarding/ bill boards at strategic locations of the city and at retail outlets. The union also promotes its brand by promoting exposure visit of house wives, school and college students to the Union and explaining them about benefit of pasteurised milk and milk Products.

In addition to the existing marketing and sales promotion activities, following Strategies for increasing the sales of the Union's milk and milk product would be adopted.

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- **Expanding marketing network:** To promote sales of packed liquid milk in the existing market, the Union is planning to appoint additional 300 retail outlets and setup 100 milk parlours in these cities.
- **Making available Visi-coolers at retail outlets:** The Union envisages equipping all retail outlets along with milk parlours with Visi-coolers and deep freezers.
- **Deep penetration:** At present, some retailers are venturing into delivery of milk to consumers' door-step and are able to achieve higher growth in sales of packed milk. The Union will promote door delivery concept and give special preference to retailers who venture into it.
- **Awareness campaigns:**
 - o Awareness campaigns on benefits of packed liquid milk over loose milk, dangers of loose milk in terms of hygiene, quality, etc.
 - o Arranging programmes for housewives, school & college students' visits to dairy plant to be continued and scaled up.
- **Visibility drives:**

The Union will undertake special drives for building the brand including bill-boards, advertisements, publicity campaigns, etc.

10. Proposed new milk processing plant details

10.1 Land and location

The Union has about 12 acres of land at LMN location, near to the state high way in the operational area of the Union. Connecting road from the proposed location to the state highway is available. The land was purchased by the Union from the market in 2005. The land is encumbrance free. After

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construction of plant in 1/3 of the area, sufficient land will be available for its future expansion, vehicle movement, parking of tankers and transport vehicles.

10.2 Site development

- The location has been fenced with barbed wire with a gate opening towards the road.
- The land has to be levelled before establishment of plant and internal road and drainage facilities have to be constructed under the project.

10.3 Layout and building

The civil works comprise of main processing building, which includes Raw Milk Reception Dock, Main processing hall, provision for manufacture of other products, cold storage, CIP, Laboratory, quarters, office, garages, security post etc. The factory building for the milk reception, quality control, processing, packing and storage of milk products should be as per approved standards.

The essential sections of a milk processing plant are given in below:

- Raw Milk Reception Dock (RMRD) - consisting of can conveyor, can washer, weighing balance, dump tank etc.
- Processing Hall - cream separator, chiller, homogenizer, pasteuriser and other related machinery are installed.
- Storage area- for milk storage tanks.
- Products manufacturing area-depends upon the type of products, quantity of milk handled and the machinery to be installed.
- Packing area-for packing of liquid milk and other products.
- Cold storage-for keeping the milk and milk products before sending to market.

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- Quality Control Laboratory-for testing the quality of milk and milk products.
- Utilities area-for installing boiler, generator set, water treatment plant, maintenance and store area for spares.
- Effluent Treatment Plant area for treating the dairy effluents before releasing to the fields.
- Office area-for all the essential staff.
- Vehicle parking area-both for the milk procurement and distribution vehicles.
- Input supply area- for providing veterinary service, supply of feed, fodder seeds, etc.

10.4 Plant and machinery

The equipment required for establishment of 300 TLPD capacity of milk processing plant along with its specification is given in **Annex IV**.

10.5 Technical Consultancy Services

The Union does not have technical expertise in establishment of 300 TLPD milk processing plant. Therefore, the Union proposes to avail Technical Consultancy Services from a competent organization for execution of project on turnkey basis, for which required provision has been made under the project.

10.6 Schedule of implementation

The project is expected to start in the year 2017-18. The appointment of the agency for technical consultancy services, construction of civil structures, purchase of materials, etc. will begin from 2017-18. The establishment of new dairy plant is expected to be completed by 2018-19 and start processing of milk and manufacturing of milk products from 2019-20 onwards. Activity for strengthening of chilling infrastructure will

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continue till 2019-20. The schedule of implementation is given in **Annex V**.

11. Project Cost

The total project outlay is Rs. 13,490 lakh with Rs. 10,792 lakh as loan and Rs. 2698 lakh as End Borrower's contribution. The break-up of physical targets and outlay is given in the table below:

Table 6: Component wise physical targets

Sr No.	Activities	2017-18	2018-19	2019-20	Total	Unit Cost (Rs. lakh)	
A	New milk processing plant	1 (300 TLPD)	-	-	1	82.90	
B	Bulk Milk Coolers (500 KL)	Nos.	104	156	260	520	8.50
		Capacity (KL)	520	780	1300	2600	-
C	Electronic Milk Adulteration Testing Equipment at each BMC location (no.)	104	156	260	520	1.50	

Table 7: Component wise year wise project outlay

(Rs. lakh)

Sr No.	Activities	2017-18	2018-19	2019-20	Total
A	New milk processing plant				
1	Civil Works (Including ETP)	1,088	1,632	0	2,720
2	Process & Product Equipment	967	1,450	0	2,417
3	Service Equipment	840	1,260	0	2,100
4	Erection & Commissioning	222	333	0	556
5	Technical Service Fees	199	298	0	497
	Sub total A	3316	4974	0	8290
B	Bulk Milk Coolers (500 Litre)	884	1326	2210	4420
C	Electronic Milk Adulteration Testing Equipment	156	234	390	780
	Total (A+B+C)	4,356	6,534	2,600	13,490
	Union's contribution	871	1,307	520	2,698
	Interest bearing loan	3,485	5,227	2,080	10,792

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Sr No.	Activities	2017-18	2018-19	2019-20	Total
A	New milk processing plant				
	from NDDB				
	Total	4,356	6,534	2,600	13,490

12. Financial Assistance

12.1 Means of Finance

The project components are proposed to be financed under the DIDF scheme with 80% as loan and 20% as the Unions contribution. The Union will arrange its contribution from its own resources. In this regard, a copy of the Board resolution is attached at **Annex VI**.

12.2 Security

The state government will provide state government guarantee for the proposed loan amount.

In addition, The detail of the security available with the Union is given below:

Table 8: Details of security available with the Milk Union

Particulars	Location	Area (in acres)	Ownership	Book value (Rs. crore)
Land	PQR	8	Owned by Union	50
	LMN	12		70
	Chilling centre 1	5		30
Building	PQR	NA	Owned by Union	10
	Chilling centre 1	NA		2
Plant/machinery	PQR	NA	Owned by Union	50
	Chilling centre 1	NA		5
Total				217

12.3 The security available with the Union is 2 times more than the loan amount of Rs. 108 crore. Repayment schedule

The Union will repay the loan to NDDB within a period of 10 years including (moratorium) of 2 years on principal repayment as per the schedule given in **Annex VII**.

13. Financial Analysis

13.1 Financial indicators

- The XYZ Milk Union is a financially stable organisation and its sales turnover has increased by 16% over past 5 years. The Union has been in profit since past many years. The Financial Performance of the Union is shown in the Table below:

Table 9: Financial performance of the Milk Union

(Rs. lakh)

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16
Annual turnover	36700	44740	53070	59310	65826
Share capital	690	740	806	887	1015
Net profit	345	364	380	426	496
Accumulated Net Profit / Loss (-)	590	345	380	426	496
Net-Worth	130	2174	2370	2465	2790

- Based on above savings and improved sales realisation by establishment of new milk processing plant, the projected material balancing statement and projected operating statement for the project is worked out and is attached at **Annex VIII**. The summary of financial indicators is given in the Table below:

Table 10: Summary of financial indicators for the project

No	Financial Indicators	Base case	Sensitivity (10% reduction in procurement & sales)	Norms
1	Net Present Worth (Rs. lakh)	2787	2787	Should be +ve
2	Return on investment (RoI)	14.34%	12.82%	>10%
3	Debt Service Coverage Ratio (DSCR)	2.45	2.28	>1.50

13.2 Sensitivity analysis

Considering the projected operations of the Union, the Return on Investment (ROI) and Debt Service Coverage Ratio (DSCR) works out to **14.34%** and **2.45 times** respectively at 100% procurement and sales. After providing 10 % sensitivity in both

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milk procurement and sales volume i.e. 10% reduction in both procurement and sales, the projected ROI and DSCR works out to 12.82 % and 2.28 times respectively.

14. Key Performance Indicators

Detailed year-wise Key Performance Indicators (KPIs) of the project are given in the Table below:

Table 11: Key Performance Indicators of the project

No.	Key Performance Indicator	Unit	Base Year (2016-17)	Cumulative Targets		
				2017-18	2018-19	2019-20
1	Litres of water used per litre of milk processed	Litres				
2	Units of electricity consumed per litre of milk processed	Unit/ litre of milk				
3	% reduction in effluent per litre of milk processed	%				
4	Treated effluent water recycled as % of total effluent generated	%				
5	Reduction in expenditure on fuel per litre of milk processed (<i>at constant base year price</i>)	Rs./ litre of milk				
6	Milk used in packed liquid milk	TKgPD				
7	Milk used for manufacturing of Value Added Products (VAP)	TKgPD				
8	Villages covered through BMCs	Nos.				
9	MBRT of BMC milk at dairy dock	Minutes				
10	Share of member's income in Unions sales realisation*	%				
11	Average procurement price paid to milk producers (@4.5% fat and 8.5% SNF)	Rs. per Kg				

*Formula to be used = (Cost of raw materials after stock adjustments/Sale realisation from milk & milk products) X 100

The other monitoring parameters of the project are given in **Annex IX**.

15. Project Outcome

The Major Outcome of the project would be as follows:

- About 25,000 new milk producers would get access to organized milk market by getting associated with Milk Union thereby improving the livelihoods of small and marginal milk producer members.
- Improvement in quality of milk being sold to consumers
- Creation less effluent because of setting up of automated plant with use of state-of-art advanced technology.
- Increase in market share of Milk Union to 60% by 2021-22.
- Increase in profit margin of Milk Union due to increase in business volume & sales realisation and substantial saving in energy and water due to plant modernisation.
- Increase in share of members' income in the Union's sales realization.

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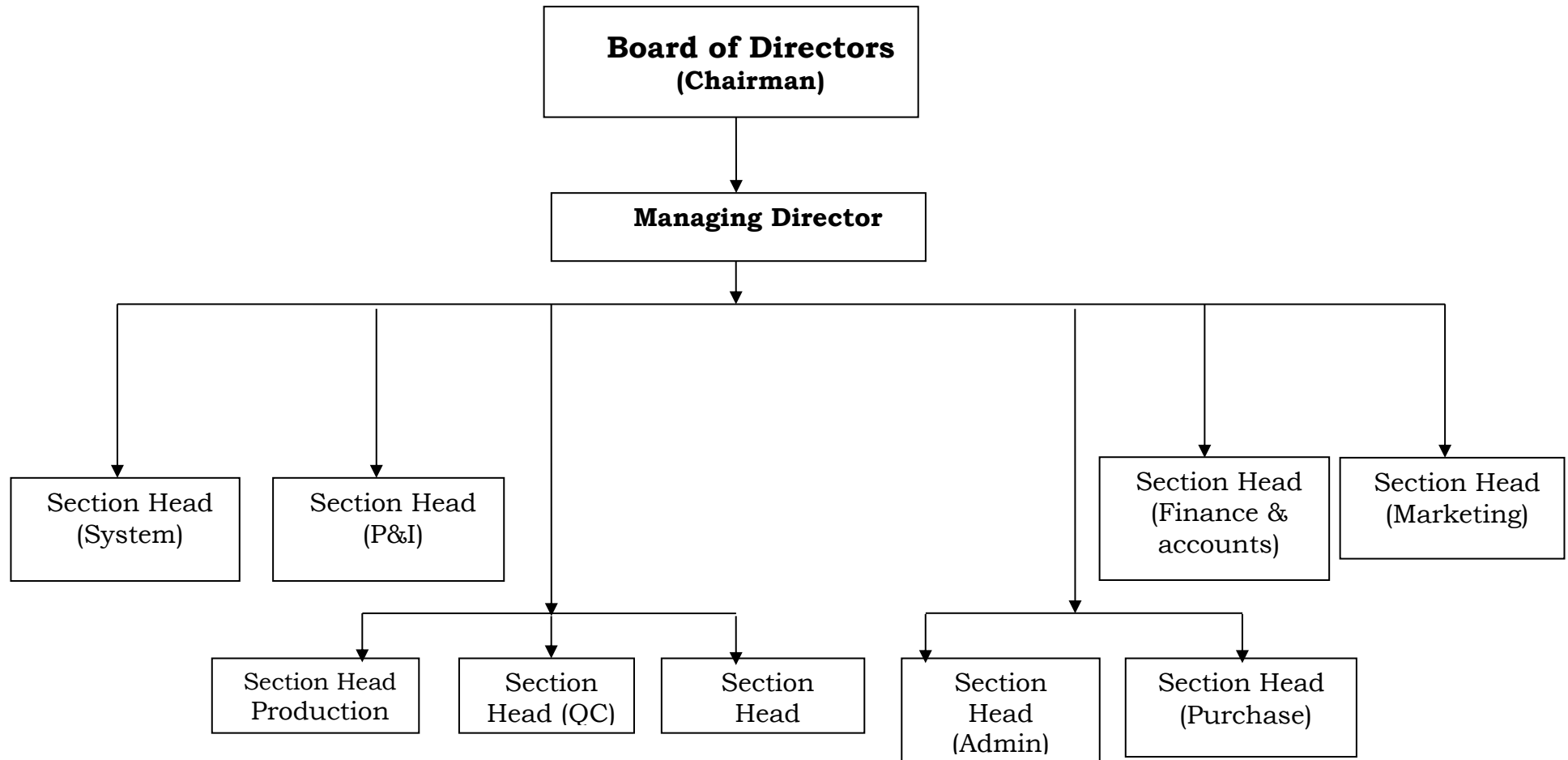
Annex I: Operational area of XYZ Milk Union in comparison to the State

No.	Particulars	Unit	Operational area of XYZ Milk Union	State	% share in State
1	Area	'000 sq. km.	8.33	192	4.3%
2	Revenue villages	Nos.	688	29340	2.3%
3	Total population	Lakh Nos.	32.62	611.31	5.3%
4	Rural population	Lakh Nos.	19.36	375.53	5.2%
5	Rural Household	Lakh Nos.	3.65	70.85	5.2%
6	Estimated Milch Animal Holding Household	Lakh Nos.	1.67	32.53	5.2%
7	Milch animals	Lakh Nos.	2.52	58.31	4.3%
8	Milk production	TKgPD	1500	19000	7.89%
9	Estimated surplus	TKgPD	700	12515	5.59%
10	Milk procurement	TKgPD	330	6478	5.09%
11	Functional DCS	Nos.	680	13287	5.12%
12	Organised members	Nos.	125	2400	5.21%
13	Procurement as share of marketable surplus	%	45%	52%	-

**Annex II: List of villages for strengthening chilling infrastructure
(BMC & Electronic Milk Adulteration Testing
Equipment) under the project**

No.	Name of District	Name of Village	Census Code (as per Human Census 2011)	BMC Capacity (KL)	Number of villages to be linked with BMC village	Milk procurement (TKgPD)
1						
2						
3						
4						
5						
6						
7						
8						
9						

Annex III: Organogram of the Milk Union



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Annex IV: Civil and equipment requirement & specification for setting-up a plant of 300 TLPD capacity

A. Summary of Cost estimates

No.	Description	Amount (Rs. lakh)
1	CIVIL WORKS	2720.13
2	PROCESSING & PRODUCTION EQUIPMENT	2417.47
3	SERVICE EQUIPMENT	2099.50
4	MISCELLANEOUS EQUIPMENT	182.07
5	ERECTION	373.57
6	TSF ON SL. Nos. 1 – 5	428.60
	SERVICE TAX ON TSF @ 16%	68.58
	TOTAL PROJECT COST (Rs lakhs)	8289.92

B. Cost estimates – Civil works

DESCRIPTION	QTY	UNIT	UNIT RATE Rs	SUB TOTAL Rs.	AMOUNT Rs. LAKHS
CIVIL WORKS					
LAND AND DEVELOPMENT					
LAND AND DEVELOPMENT					55.00
Land development, landscaping, soil investigation & land survey	1	LS	5500000	5500000	
INDUSTRIAL BUILDING					
INDUSTRIAL BUILDING					1127.1
Production Block	2935	Sq M	26000	76310000	
Service block	1400	Sq M	26000	36400000	
Misc. Industrial buildings: Fuel yard, Transformer yard, foundation of milk silos, ammonia and air compressors, ice silos/IBT, boilers and chimney, structural pipe bridge etc.	1	LS	5000000	5000000	
STORAGE FACILITIES/BUILDINGS					
STORAGE FACILITIES/BUILDINGS					246.00
Powder godown	300	Sq M	26000	7800000	
Packing material store	100	Sq M	26000	2600000	
Chemical store	100	Sq M	26000	2600000	
Spare parts store	100	Sq M	26000	2600000	
General Godown	300	Sq M	26000	7800000	
Scrap Yard	200	Sq M	6000	1200000	
NON INDUSTRIAL BUILDINGS					
NON INDUSTRIAL BUILDINGS					

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DESCRIPTION	QTY	UNIT	UNIT RATE Rs	SUB TOTAL Rs.	AMOUNT Rs. LAKHS
Administrative block	300	Sq M	35000	10500000	233.00
Workers Amenities	200	Sq M	35000	7000000	
Security complex	60	Sq M	35000	2100000	
Toilet block	60	Sq M	35000	2100000	
Parking cycle/scooter stand	1	LS	800000	800000	
MS gates	2	LS	400000	800000	
COMPOUND WALL AND OTHER BUILDINGS					
COMPOUND WALL AND OTHER BUILDINGS					
Compound wall/Chain link fence	1	LS	5000000	5000000	50.00
BUILDING FURNISHINGS					
OFFICE FURNISHINGS AND EQUIPMENT					
Lab furniture	1	LS	2500000	2500000	37.00
Site Furniture	1	LS	1000000	1000000	
Misc. Furnishing	1	LS	200000	200000	
EFFLUENT TREATMENT PLANT					
EFFLUENT TREATMENT PLANT					300.00
Civil, mechanical, electrical & erection works for ETP for 2 LLPD dairy	1	LS	30000000	30000000	
ROAD AND PAVEMENTS					
ROAD AND PAVEMENTS					
Concrete roads /Hard Park	6000	Sq mt	3500	21000000	210.00
ELECTRIFICATION					
INTERNAL ELECTRIFICATION					140.00
Electrification Contract	1	LS	7500000	7500000	
Lighting Fixtures and Fans	1	LS	6500000	6500000	
WATER SUPPLY AND DRAINAGE					
WATER SUPPLY AND DRAINAGE					101.00
UG sump 2.0 lakh Litres	200	CUM	13000	2600000	
Storm water drainage	1	LS	3000000	3000000	
Rain water harvesting with recharge wells	1	LS	2500000	2500000	
External sanitary line	1	LS	2000000	2000000	
CONSULTANTS SERVICES					
CONSULTANTS SERVICE FEES					
Architects & structural consultants fees @ 3.5% of civil works	1	LS		67.0635	67.06
CIVIL CONTINGENCIES					
CIVIL CONTINGENCIES					
Civil contingencies @ 6 %	1				153.97
TOTAL FOR CIVIL WORKS					2720.13

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C. Cost estimates – Equipment

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
PROCESS AND PRODUCTION EQUIPMENT					
RECEPTION EQUIPMENT					
RECEPTION EQUIPMENT INCLUDING STORAGE					138.10
Tanker unloading hose with fittings (2 No. for unloading, 2 no. for CIP)	63.5/ 51 mm	4	125000	500000	
Tanker unloading pump	20 KLPH	2	130000	260000	
Disc type Inline strainer	20 KLPH	2	50000	100000	
SS De-aeration vessel	Suitable	1	150000	150000	
Reception & tanker CIP Control panels	-	1		0	
Self supported hot dip galvanised Steel platforms for approach of tanker man ways with SS railing	-	1		0	
Raw Milk Chiller (10 - 4 Deg C)	20 KLPH	2	350000	700000	
Raw Milk Silos	60 KL	3	3500000	10500000	
CIP Return Pump	20 KLPH	2	200000	400000	
Mass flow meters	20 klph	2	600000	1200000	
CHILLING & PROCESSING EQUIPMENT					
CHILLING & PROCESSING EQUIPMENT FOR MILK AND CREAM					990.90
Milk transfer pump from RMST to Pasteurizer	20 KLPH	1	140000	140000	
Inter silo Milk Transfer/Raw Milk despatch pump	20 KLPH	1	140000	140000	
Mass flow meters	20 KLPH	1	900000	900000	
Milk Pasteuriser with all accessories	10 KLPH	2	2500000	5000000	
Milk Pasteuriser with accessories for curd milk	5 KLPH	1	2000000	2000000	
Self Cleaning Tripurpose centrifuge with Auto Standardisation Unit	10 KLPH	2	20000000	40000000	
Homogeniser with accessories for milk	10 KLPH	2	10000000	20000000	
Homogeniser with accessories for curd milk	5 KLPH	1	4000000	4000000	
Electric hoist with mono rail structure	3 Ton	1	200000	200000	
Pasteurised Milk Silos (PMST)	60 KL	3	3500000	10500000	
Pasteurised Milk Silos (PMST)	30 KL	4	2500000	10000000	
Pasteurised Milk Despatch Pump	20 KLPH	1	140000	140000	
Pasteurised Milk Despatch Chiller	20 KLPH	1	350000	350000	
Past Milk Inter Silo Transfer pump	20 KLPH	1	140000	140000	
Past Milk Silo to Raw Milk Silo Transfer pump	20 KLPH	1	140000	140000	
CIP Return Pump	20 KLPH	1	250000	250000	
Milk transfer pump to HMST	20 KLPH	1	140000	140000	
Milk Re-Chiller for pouch filling lines	20 KLPH	1	300000	300000	
Milk Dispatch (tanker loading) hose	63.5 dia	2	125000	250000	

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
food grade					
Cream balance tank	500 L	1	100000	100000	
Cream transfer Pump with VFD	2 KLPH	1	350000	350000	
Cream Pasteuriser	2 KLPH	1	1000000	1000000	
Cooling Tower system with pumps	Suitable	1	400000	400000	
Cream Storage cum Ripening Tank	5 KL	2	1000000	2000000	
CIP Return Pump	20 KLPH	1	250000	250000	
Cream pump (Lobe) with VFD for transfer of cream to butter section as well as dosing to silo for fat correction	3 KLPH	1	400000	400000	
RECONSTITUTION EQUIPMENT					
Milk RECONSTITUTION SECTION INCLUDING POWDER STORE					29.20
Funnel venturi with pumps	500 kgs/hr	1	200000	200000	
Water heater PHE with water flow meter	5 KLPH	1	800000	800000	
Duplex Filters	5 KLPH	1	140000	140000	
Reconstitution milk tank	5 KL	2	600000	1200000	
CIP return pump	20 klpH	1	250000	250000	
Milk Recirculation-cum-transfer Pump	5 KLPH	1	130000	130000	
Reconstitution milk chiller	5 KLPH	1	200000	200000	
LIQUID MILK FILLING EQUIPMENT					
POUCH FILLING SECTION INCLUDING CRATE WASHING					121.80
Crate washer with drier	1200 CPH	1	1500000	1500000	
Two tier Crate conveyor with pouch collection table for individual machine and conveying of filled crates upto milk cold room	Suitable	1	1500000	1500000	
Pouch Filling Machines for Liquid Milk	5500 PPH	3	1300000	3900000	
Milk filling tanks (HMST)	10 KL	1	1300000	1300000	
Milk filling tanks (HMST)	5 KL	2	800000	1600000	
Left over milk collection & return system	5 KLPH	1	300000	300000	
CIP Return Pumps	20 KLPH	2	250000	500000	
SS packing table	Lot	1	200000	200000	
Electronic weigh scale	0 - 2 Kgs	1	20000	20000	
Cooling Water balance tank with accessories	500 Ltrs	1	300000	300000	
Cooling water recirculation pump (SS)	5 KLPH	1	150000	150000	
Cooling water PHE Chiller	5 KLPH	1	200000	200000	
Trolley mounted leaky pouch collection tank	50 L tank	3	75000	225000	
Leaked pouch dump tank	500 Ltrs	1	125000	125000	
Inline duplex Strainer	5 KLPH	1	60000	60000	
Leaked pouch milk PHE	5 KLPH	1	200000	200000	
Leaked pouch milk transfer pump	5 KLPH	1	100000	100000	
RINSE MILK RECOVERY SYSTEM					10.75
Rinse milk recovery tank jacketed	3 KL	1	500000	500000	

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DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
& insulated					
Rinse Milk transfer pump to RMST	5 KLPH	1	125000	125000	
Rinse Milk Chiller	5 KLPH	1	200000	200000	
CIP Return Pump	20 KLPH	1	250000	250000	
BUTTER MAKING EQUIPMENT					
CONTINUOUS BUTTER MAKING SECTION					72.75
Cream Transfer Pump (lobe) imported	2 KLPH	1	400000	400000	
Cream Buffer Tank	1 KL	1	150000	150000	
Continuous Butter making Machine without provision for automatic salt and moisture correction facility.	800 kg/hr	1	3800000	3800000	
Continuous Butter making Machine with provision for automatic salt and moisture correction facility.	1000 Kg/Hr	0		0	
Salt Dosing Tank on skid	100 L	0		0	
Dosing Pump	0-400 LPH	0		0	
On line moisture And salt measurement and control system	imported	0		0	
Pasteurised Butter Wash Water insulated Tank	5 KL	1	800000	800000	
Pasteurised Butter Wash Water Transfer pump	5 KLPH	1	125000	125000	
Butter Wash Water Balance Tank	500 L	1	100000	100000	
Wash Water circulation pump	5 KLPH	1	100000	100000	
Wash Water PHE	5 KLPH	1	200000	200000	
Butter Moulding & Wrapping machines	140 PPM	0	35000000	0	
Conveyors for the inter-transfer of packed table butter and also to the cold room.	Suitable	0	2000000	0	
Butter Milk Storage Tank	2 KL	1	400000	400000	
Hopper with auger, covers, level sensors, controls	-	1	800000	800000	
Butter trolleys	600 kgs	2	200000	400000	
LASSI & BUTTER MILK HANDLING SECTION					26.25
Curd Inoculation Tank	5 KL	1	1000000	1000000	
Curd Setting Tank	5 KL	1	1000000	1000000	
SS Shear Pump	5 KLPH	1	500000	500000	
Inoculated Milk/Lassi/Butter Milk transfer pump	5 KLPH	1	125000	125000	
FAT RECOVERY SECTION					10.50
Butter Melting Tank	1000 L	1	500000	500000	
Molten Butter Transfer Pump	5 KLPH	2	150000	300000	
Fat Recovery Tank	1000 L	1	250000	250000	
GHEE MAKING EQUIPMENT					
GHEE MAKING & PACKING EQUIPMENT					96.00
Butter Positive Displacement pump	2 KLPH	1	400000	400000	
Butter Melting Vat with PHE based	2 KL	1	1600000	1600000	

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
hot water generator					
Molten Butter Transfer Pump	2 KLPH	1	250000	250000	
Pre-stratification Tank	1 KL	2	200000	400000	
Ghee boiler	1 KL	2	400000	800000	
Ghee transfer pump	2 KLPH	3	250000	750000	
Ghee Settling tanks	1 KL	2	350000	700000	
Ghee Clarifier	3 KLPH	1	1800000	1800000	
Ghee Balance Tank	200 lts	1	100000	100000	
Ghee storage cum granulation jacketed tanks	5 KL	1	1000000	1000000	
Ghee Pouch Packing Machine	2500 PPH	1	1000000	1000000	
Ghee check weighing scale	1, 2 KG	1	50000	50000	
Ghee residue trolley with tank	100 L	1	100000	100000	
SS packing tables	Suitable	1	150000	150000	
Ghee leaky pouch collection system	Suitable	1	500000	500000	
CURD MAKING & PACKING					
CURD, LASSI & BUTTER MILK MAKING & PACKING EQUIPMENT					95.10
Curd milk storage tank	5 KL	1	800000	800000	
CIP return pump	20 KLPH	1	250000	250000	
Culture Preparation Tank	500 L	1	300000	300000	
Culture Dosing Pump PD type	Suitable	1	400000	400000	
Inoculation/curd setting tank for curd	5 KL	2	900000	1800000	
CIP Return pump for curd tank	20 KLPH	1	250000	250000	
Sugar dissolving / syrup preparation vat	1 KL	1	500000	500000	
Sugar syrup transfer pump	5 KLPH	1	120000	120000	
Pasteurized water tank	2 KL	1	400000	400000	
PHE Chiller for cooling sugar syrup & past. water	5 KLPH	1	250000	250000	
Pasteurized water transfer pump	5 KLPH	1	120000	120000	
Sugar syrup transfer pump	5 KLPH	1	120000	120000	
Pouch Filling Machine for curd milk/butter milk /lassi	5500 PPH	1	1400000	1400000	
Leaky pouch collection system		1	300000	300000	
Rotary curd cup filling machine indigenous		1	1000000	1000000	
Crate washer and conveyor	1200 CPH	1	1400000	1400000	
Heater for incubation room	Suitable	1	100000	100000	
CLEANING IN PLACE EQUIPMENT					161.00
CIP COMMON FACILITY					
Bulk Acid storage tank	15 KL	1	1300000	1300000	
Bulk Lye storage tank	15 KL	1	1300000	1300000	
Chemical unloading pump (for acid & lye)	10 KLPH	2	150000	300000	
Tanker unloading hose	10 KLPH	2	100000	200000	
Acid carbouys unloading tank	500 L	1	150000	150000	
Lye flake dissolving tank with agitator	2 KL	1	300000	300000	

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DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
Acid Transfer pump	5 KLPH	1	100000	100000	
Lye Transfer pump	5 KLPH	1	100000	100000	
SS tray for bulk tanks and pumps	Set	1	150000	150000	
PROCESS & Tanker CIP - 3 Circuits					
Lye tank	8 KL	1	1100000	1100000	
Acid Tank	5 KL	1	900000	900000	
Hot water tank	8 KL	1	1100000	1100000	
Recuperation tank	8 KL	1	1100000	1100000	
Flush water tank	8 KL	1	800000	800000	
Acid Service Tank with dosing pump	500 Ltrs	1	200000	200000	
Lye Service Tank with dosing pump.	500 Ltrs	1	200000	200000	
Plate Heat exchangers	20 KLPH	2	400000	800000	
Duplex Inline Filters	20 KLPH	2	100000	200000	
CIP forward pumps	20 KLPH	3	150000	450000	
Recirculation pump for acid & lye solution tanks	Suitable	2	75000	150000	
TANKER CIP - single Circuits					
Lye tank	5 KL	1	900000	900000	
Acid Tank	3 KL	1	800000	800000	
Hot water tank	5 KL	1	900000	900000	
Recuperation tank	5 KL	1	900000	900000	
Flush water tank	5 KL	1	500000	500000	
Acid Service Tank with dosing pump	500 Ltrs	1	200000	200000	
Lye Service Tank with dosing pump.	500 Ltrs	1	200000	200000	
Plate Heat exchangers	20 KLPH	1	400000	400000	
Duplex Inline Filters	20 KLPH	1	100000	100000	
CIP forward pumps	20 KLPH	1	150000	150000	
Recirculation pump for acid & lye solution tanks	Suitable	2	75000	150000	
CIP FOR IP BLOCK					
Lye tank	8000 L	1			
Acid Tank	5000 L	1			
Hot water tank	5000 L	1			
Recuperation tank	8000 L	1			
Flush water tank	3000 L	1			
Lye & Acid dosing system		2			
Acid Transfer pump	5000 LPH	1			
Lye Transfer pump	5000 LPH	1			
Acid Service Tank	500 Ltrs	1			
Lye Service Tank	500 Ltrs	1			
Plate Heat exchangers	40 / 20 KLPH	3			
Duplex Filters	40 / 20 KLPH	3			
CIP forward pumps	40 / 20 KLPH	3			
CIP Return Pumps	40 / 20 KLPH	2			
MILK PIPING AND FITTINGS					350.00
MILK & CIP PIPING AND FITTINGS					

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
SS Pipes, fittings, flow plates, SS supports, imported Mix proof & single seat valves, valve battery trays etc.		1	35000000	35000000	
INSTRUMENTATION & CONTROL & INSTRUMENTS, AUTOMATION					200.00
Controls & Instrumentation		1	20000000	20000000	
DCS Automation system with HMIs					
MIS System					
TOTAL				230235000	2302.35
PROCESS AND PRODUCTION CONTINGENCIES					
PROCESS AND PRODUCTION CONTINGENCIES					
Process and Production contingencies				11511750	115.12
TOTAL FOR PROCESS & PRODUCTION				241746750	2417.47
SERVICE EQUIPMENT					
REFRIGERATION SYSTEM					856.50
REFRIGERATION PLANT					
Refrigeration Compressor Units (1 W + 1 S) suitable for operating at -10 Deg C suction and +40 Deg C condensing Temp. for ice silo, pre chiller and cold store	180 TR	2	4000000	8000000	
Refrigeration Compressor Units (1 W + 1 S) suitable for operating at -25 Deg C suction & -10 Deg C discharge for butter deep freeze	15 TR	2	2000000	4000000	
Motors for main Compressors	-	2	500000	1000000	
Motors for booster Compressors		2	125000	250000	
VFD Starters for high stage compressor	-	2	350000	700000	
VFD Starters for low stage compressor		2	150000	300000	
Common Economizers one each for -5 Deg C & -30 Deg C compressors	-	2	300000	600000	
Oil Loading & unloading system	Set	1	150000	150000	
Pre-Chiller working at -2 deg C Complete with liquid accumulator, Anti-freeze temperature controller, CIP arrangement - Flow rate of water 180 Cu.m/Chiller		1	1200000	1200000	
Evaporative type condenser imported	Suitable	2	3000000	6000000	
Liquid ammonia pumps, 15 Cum/Hr for -5 deg C)		2	400000	800000	
Liquid ammonia pumps 1.5 Cum/Hr for -30 deg C		2	250000	500000	
HP Liquid ammonia Receiver with	2500 L	2	400000	800000	

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DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
standard fittings.					
IBT System with 4000 RM coil	Set	1	6000000	6000000	
Refrigerant lines controls		1	2000000	2000000	
Priority vessel		1	900000	900000	
Miscellaneous items	Lot	1	1300000	1300000	
Liquid accumulator, one each for system working at -5 deg C and - 30 deg C		2	800000	1600000	
Oil Cooler - refrigerant cooled type	Set	1	100000	100000	
Oil Rectifier for -2 deg C, -10 deg C & -25 deg C systems	Set	1	2500000	2500000	
Chilled water pumps (3W + 1S)	100 Cum/hr	4	300000	1200000	
Defrost water supply & return pump (2W + 1S)	30 Cum/hr	3	150000	450000	
Automatic air purger		1	600000	600000	
Motor Control Centre for Refrigeration		1	3000000	3000000	
PLC / DCS based Plant Central Automation		1	3000000	3000000	
Copper Power, control & instrumentation cables		1	3500000	3500000	
Earthing materials, cable trays & electrical accessories		1	500000	500000	
Local instruments on all vessels/pipelines		1	1000000	1000000	
Ammonia Piping, valves & fittings	-	1	3500000	3500000	
Condenser water Piping, valves & fittings	-	1	1500000	1500000	
Defrost water, Chilled water Piping/drain, valves & fittings for process upto the outlet of the pump NRV.	-	1	2000000	2000000	
Insulation of refrigerant and chilled water lines with PUF sections and cladding		1	1500000	1500000	
Galvanised MS Structural supports for piping including supports for piping outside the building, ladder etc.		1	1200000	1200000	
Spares	Lot	1	2000000	2000000	
Expansion tank for chilled water	15 KL	1	1000000	1000000	
First Charge of ammonia Gas	-	1	700000	700000	
First Charge of Compressor Oil & Lubricants	-	1	300000	300000	
COLD STORAGE/ DEEP FREEZERS INSULATION USING PUF SANDWICHED PANELS & FDC UNITS					
Milk Cold Storage	60 KL	1	20000000	20000000	
Dahi blast cooler	3500 L	0			
Dahi Cold storage	5000 L	0			
Chaach/Lassi Cold Storage	100000 L	0			
Paneer Cold Storage	10000 T	0			
Butter Cold Store	10 T	1			

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
Curd & Paneer Cold Store	10 T	1			
Curd incubation room	10 T	1			
Butter deep freeze for butter	20 T	1			
STEAM GENERATION SYSTEM					430.00
STEAM RAISING PLANT					
Coal/ wood/briquette fired Steam Boiler with ESP, auto blow down and Air preheating	3 TPH	2	13000000	26000000	
Chimney & Ducting		1	6000000	6000000	
Feed Water Tank insulated & Water piping	10 KL	1	1800000	1800000	
HP Steam & Condensate Pipes & Fittings IBR	-	1	3000000	3000000	
Steam Pressure Reducing Station IBR		2	1000000	2000000	
LP Steam Pipes & Fittings	-	1	1700000	1700000	
Condensate collection and pumping system		1	1500000	1500000	
Insulation of Steam Piping	-	1	1000000	1000000	
WATER HANDLING SYSTEM					132.00
WATER SYSTEM					
Automatic duplex filtration plant	30 KLPH	1	2500000	2500000	
Raw filtered water hydroflow system with vertical pumps (1W + 1S)	25 KLPH	1	1700000	1700000	
Automatic duplex water softening plant	20 KLPH	1	3000000	3000000	
Soft water hydroflow system with vertical pumps (1W + 1S)	20 KLPH	1	150000	150000	
Automatic DM or RO water plant	5 KLPH	1	4500000	4500000	
DM or RO water buffer SS storage tank	15 KL	1	150000	150000	
RO water pumps (1W + 1S)	5 KLPH	2	100000	200000	
Water pipes, valves & fittings	-	1	1000000	1000000	
COMPRESSED AIR HANDLING SYSTEM					
AIR HANDLING SYSTEM					147.00
VFD driven non-lubricating screw air compressor in acoustic enclosure & with after cooler & moisture separator (1 W + 1S)	300 CFM	2	5000000	10000000	
SS Air Receiver with accessories	-	1	500000	500000	
Air Dryer refrigerated type	-	2	1200000	2400000	
Compressed air pipes & fittings		1	1800000	1800000	
STRUCTURAL BRIDGES/PLATFORMS					80.00
SS structural platforms in tanker ways/CIP tanks/ghee equipment/silos spiral ladders, pouch filling machines, cross over bridge for crate conveyors etc.		1	8000000	8000000	
INDUSTRIAL ELECTRICAL HT					
INDUSTRIAL ELECTRICAL HT					37.00
2 panel 11 KV HT VCB and		1	1400000	1400000	

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
Protection system					
HT Cable, 11 KV, XLPE		1	600000	600000	
Two pole structure with accessories		1	200000	200000	
OLTC Transformer 11 KV/415V with RTCC Panel	500 KVA	1	1500000	1500000	
INDUSTRIAL ELECTRICAL LT					
INDUSTRIAL ELECTRICAL LT					317.00
LT Bus duct	No.	1	800000	800000	
Power control centre (PCC)	No.	1	4000000	4000000	
MCC's for LMP, Ghee, Curd, UHT and boilers	Lot	1	9000000	9000000	
Power & control cables	Lot	1	5000000	5000000	
Instrumentation cables	Lot	1	1000000	1000000	
RCPs, Frequency drive panel	Lot	1	1500000	1500000	
Earthing (Power & instruments/automation)	Lot	1	400000	400000	
Capacitor Panels with APFCR & Capacitors	Lot	1	1000000	1000000	
DG Set with AMF Panel	500 KVA	1	6000000	6000000	
Miscellaneous items					
- GI & SS cable trays	Lot	1			
- Isolators (with Emergency push buttons)	Lot	1	3000000	3000000	
- Rubber Mats	Lot	1			
- SS Conduits	Lot	1			
TOTAL SERVICE EQUIPMENT				199950000	1999.50
SERVICE EQUIPMENT CONTINGENCIES					
SERVICE EQUIPMENT CONTINGENCIES					
Service equipment contingencies				9997500	99.98
TOTAL FOR SERVICE EQUIPMENT				209947500	2099.50
MISCELLANEOUS EQUIPMENT					
LABORATORY EQUIPMENT					
LABORATORY EQUIPMENT					60.00
Gerber Test Equipment		1			
MBR Test kit		1			
Sediment Analyser		1			
Phosphatase Test kit		1			
Raw milk density meter		1			
Acidometer		1			
Sampling Kit		1			
Plate count test kit		1			
Swab test kit		1			
Advance range electronic pH meter		1			
Chlorine Sanitiser strength analyser		1			
Majonnier Fat tester		1			
Water examination test kit		1			
Infra red milk analyser		1			
Electric autoclave		1			
Polarimeter		1			
Microscope		1			

Model DPR for End Borrowers under DIDF scheme

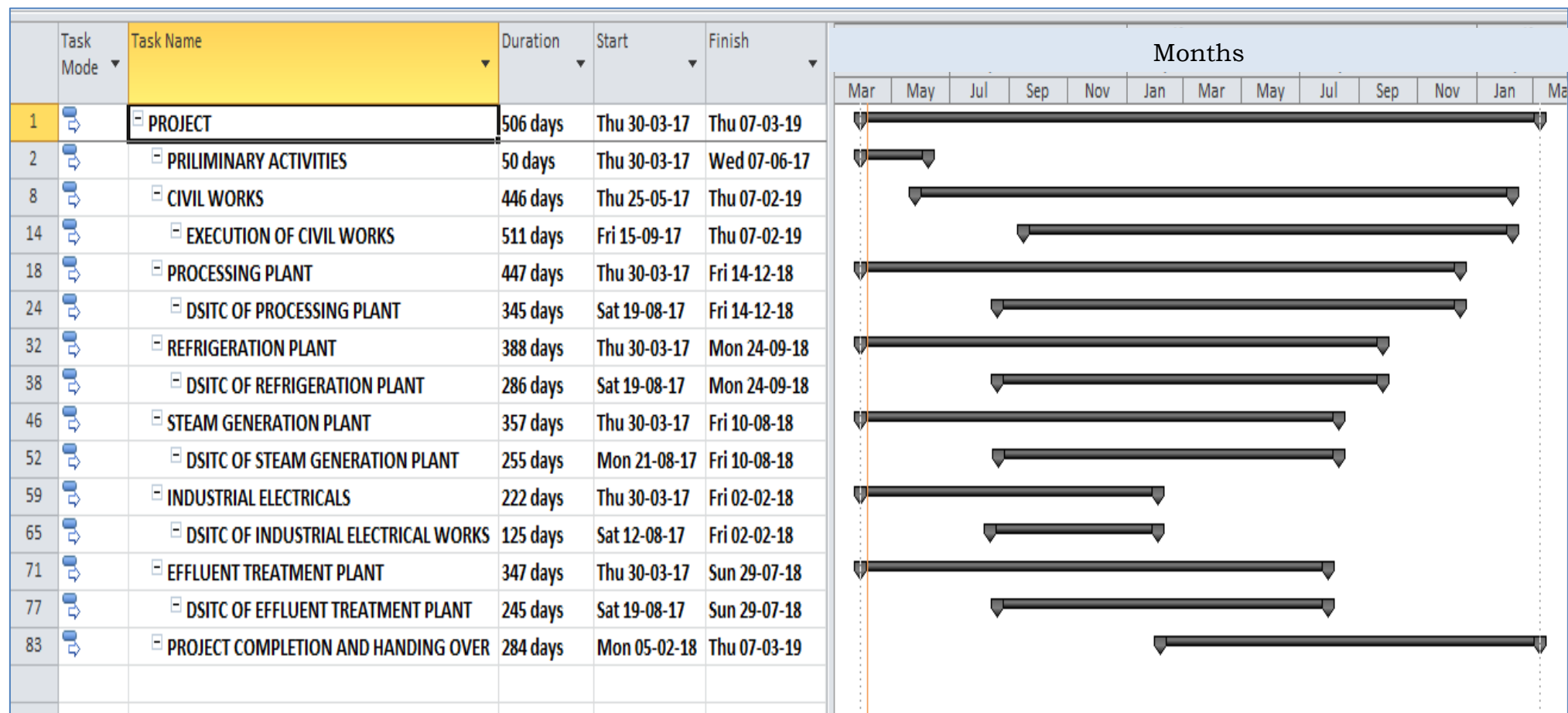
DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
Magnetic stirrer		1			
Causticity / acidity test equipment		1			
Coliform bacteria test equipment		1			
Colony counter		1			
High precision weighing balance		1			
Heavy duty hot air oven		1			
Incubator		1			
Distilled water unit		1			
Antibiotics test kit		1			
Anaerobic count analysis equipment		1			
Microwave oven		1			
Laboratory, equipment, glassware, chemicals	Lot	1	6000000	6000000	
WORKSHOP MACHINES					
WORKSHOP EQUIPMENT AND TOOLS					10.00
Workshop tools & equipment	Lot	1	1000000	1000000	
FIRE FIGHTING SYSTEM					
FIRE FIGHTING SYSTEM					3.00
Fire extinguishers for LMP, control room, office, Workers' amenities, production building, butter cold store & deep freeze, ghee store, general store & lignite/coal/wood/briquette storage area	Lot	1	300000	300000	
WEIGHING EQUIPMENT					
WEIGHING EQUIPMENT					15.40
Elec. Weigh bridge	40 MT	1	1400000	1400000	
Elec. Weigh scale in central store	100-300 kg	2	70000	140000	
COMMUNICATION EQUIPMENT					
EPABX AND TELEPHONE					15.00
EPABX and telephone system	Lot	1	1500000	1500000	
SPARE PARTS					
SPARE PARTS					50.00
Spares	Lot	1	5000000	5000000	
MISCELLANEOUS ITEMS					20.00
Steam & Water Mixing batteries	No.	10	100000	1000000	
Misc items	Lot	1	1000000	1000000	
TOTAL				17340000	173.40
MISCELLANEOUS EQUIPMENT CONTINGENCIES					
MISCELLANEOUS EQUIPMENT CONTINGENCIES					
Miscellaneous equipment contingencies				867000	8.67
TOTAL FOR MISC EQUIPMENT				18207000	182.07
ERECTION					
ERECTION					
ERECTION, TESTING AND COMMISSIONING					352.43
Erection of LMP, utilities, Misc. items + Misc. like insurance/water	Job	1		35242593.8	

Model DPR for End Borrowers under DIDF scheme

DESCRIPTION	CAPACITY	QTY	UNIT PRICE	TOTAL PRICE	Total Price in Lakh Rs
charges/ Electricity etc.					
TOTAL					
ERECTION CONTINGENCIES					
ERECTION CONTINGENCIES					
Erection contingencies				2114556	21.15
TOTAL FOR ERECTION OF EQUIPMENT				37357149.4	373.57

Model DPR for End Borrowers under DIDF scheme

Annex V: Tentative project implementation schedule



Annex VI: Copy of Board Resolution

The Board of Directors of XYZ Milk Union in its meeting held on 05 April 2017 vide Resolution No.123 has adopted the following resolution:-

Resolution No. 123

“RESOLVED that the approval of the Board be and is hereby accorded to the Union for receiving assistance under Dairy Processing & Infrastructure Development Fund (DIDF) scheme of Government of India.”

“FURTHER RESOLVED THAT the Union intends to establish 3 LLPD dairy plant, 520 BMCs (0.5 KL) and 520 Electronic Milk Adulteration Testing Equipments.”

“FURTHER RESOLVED THAT out of total project cost of about Rs. 13490 Lakh, the Union intends to avail Rs. 10792 Lakh as loan @ 6.5% p.a. under the above scheme and is ready to contribute the balance amount of Rs. 2698 Lakh from its own sources.”

“FURTHER RESOLVED THAT, the Union hereby ensures that there is no duplication or overlap of the proposed activity(s) with the existing schemes of the Central and State Government departments in the operational area of the Union.

“FURTHER RESOLVED THAT Managing Director of the Union be and is hereby authorised to execute all documents including the Loan Agreement with National Dairy Development Board (NDDB), on behalf of the Union and carry out any other relevant action that may be necessary for the appraisal and successful implementation of the project after its approval.”

Model DPR for End Borrowers under DIDF scheme

Annex VII: Proposed repayment schedule (Rs. lakh)

Particular	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	Total
Principal	0	0	1,237	1,349	1,349	1,349	1,349	1,349	1,349	1,349	112	10,792
Interest	88	399	685	634	539	445	351	256	162	67	1	3,627
Total	88	399	1,922	1,983	1,888	1,794	1,700	1,605	1,511	1,416	114	14,419

Model DPR for End Borrowers under DIDF scheme

Annex VIII: Projected Material Balancing and Operating Statement

A. Projected Material Balancing Statement

Particulars	Unit	Fat %	SNF %	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Procurement														
Cow milk (Own Procurement)	TKgPD	4.40%	8.57%	350	390	433	479	530	585	585	585	585	585	585
Milk (from other Unions)	TKgPD	4.20%	8.50%	80	78	76	71	67	64	64	64	64	64	64
Total	TKgPD			430	469	508	550	597	649	649	649	649	649	649
Total Fat Procured in Milk	MT			6847	7470	8107	8785	9537	10375	10375	10375	10375	10375	10375
Total SNF Procured in Milk	MT			13430	14641	15878	17193	18653	20282	20282	20282	20282	20282	20282
Disposal of Milk in Sachets														
Toned milk	TLPD	3.10%	8.50%	90	95	101	107	117	124	124	124	124	124	124
Homogenised Cow milk	TLPD	3.60%	8.50%	220	225	226	228	242	256	256	256	256	256	256
Super Milk	TLPD	4.60%	8.50%	5	5	6	6	7	7	7	7	7	7	7
Supreme Milk (FCM)	TLPD	6.10%	9.00%	5	5	6	6	7	7	7	7	7	7	7
Homogenised Cow milk in Flexi-pack	TLPD	3.60%	8.50%	30	45	60	75	80	84	84	84	84	84	84
Fat Disposed-Milk	MT			4634	4975	5274	5590	5989	6350	6350	6350	6350	6350	6350
SNF Disposed-Milk	MT			11194	12016	12737	13501	14463	15334	15334	15334	15334	15334	15334
DISPOSAL (MILK PRODUCTS)														

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit	Fat %	SNF %	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Butter Milk	TLPD	1.0%	2.8%	5	5	6	7	8	10	10	10	10	10	10
Sweet Lassi	TLPD	2.5%	6.8%	4	4	4	5	5	6	6	6	6	6	6
Mango Lassi	TLPD	2.5%	6.0%	2	2	2	2	3	3	3	3	3	3	3
Flavoured Milk	TLPD	1.5%	9.0%	1	1	1	2	2	2	2	2	2	2	2
Cream (Bulk)	TkgPD	35.0%	0.0%	1	1	1	1	1	2	2	2	2	2	2
Curd	TKgPD	3.1%	9.0%	52	59	67	76	85	95	95	95	95	95	95
Peda	TKgPD	18.0%	36.0%	0	0	0	0	0	0	0	0	0	0	0
Paneer	TKgPD	26.0%	53.0%	1	1	2	2	2	3	3	3	3	3	3
Mysore Pak	TKgPD	49.0%	0.0%	0	0	0	0	0	0	0	0	0	0	0
Khoa	TKgPD	22.0%	45.0%	0	0	0	0	0	0	0	0	0	0	0
Cashew Burfi	TKgPD	11.0%	5.0%	0	0	0	0	0	0	0	0	0	0	0
Tasty Bite	TKgPD	36.0%	7.5%	0	0	0	0	0	0	0	0	0	0	0
Fat Disposed-Products	MT			977	1104	1250	1415	1582	1771	1771	1771	1771	1771	1771
SNF Disposed-Products	MT			2194	2490	2828	3212	3628	4098	4098	4098	4098	4098	4098
Processing Loss														
Fat Loss on Liquid Milk Procured	MT	0.25%		17	19	20	22	24	26	26	26	26	26	26
SNF Loss Liquid Milk Procured	MT		0.25%	34	37	40	43	47	51	51	51	51	51	51
Surplus/Deficit														
Fat Surplus	MT			1220	1372	1563	1758	1942	2228	2228	2228	2228	2228	2228
SNF Surplus	MT			9	98	274	437	516	799	799	799	799	799	799

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit	Fat %	SNF %	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Conversion (Butter)	MT	83.0%	0.0%	1433	1611	1836	2065	2281	2618	2618	2618	2618	2618	2618
Conversion (SMP)	MT	0.0%	96.5%	9	97	269	430	508	787	787	787	787	787	787
Production of Ghee	MT	99.0%	0.0%	1201	1351	1539	1731	1912	2195	2195	2195	2195	2195	2195
Local sale of Ghee	MT			601	675	770	866	956	1097	1097	1097	1097	1097	1097
Ghee Sale	MT			601	675	770	866	956	1097	1097	1097	1097	1097	1097
Purchase of WB	MT	83.0%		0	0	0	0	0	0	0	0	0	0	0
Purchase of SMP	MT		96.5%	0	0	0	0	0	0	0	0	0	0	0
Opening Stock Ghee	MT			0	0	0	0	0	0	0	0	0	0	0
Ghee Production	MT			1201	1351	1539	1731	1912	2195	2195	2195	2195	2195	2195
Ghee Sales	MT			1201	1351	1539	1731	1912	2195	2195	2195	2195	2195	2195
Closing Stock of Ghee	MT			0	0	0	0	0	0	0	0	0	0	0
Opening Stock of SMP	MT			0	9	105	375	805	1312	2099	2886	3673	4460	5247
SMP Purchased	MT			0	0	0	0	0	0	0	0	0	0	0
SMP Production	MT			9	97	269	430	508	787	787	787	787	787	787
Sale of SMP	MT													
Use of SMP	MT			0	0	0	0	0	0	0	0	0	0	0
Closing Stock of SMP	MT			9	105	375	805	1312	2099	2886	3673	4460	5247	6034

Model DPR for End Borrowers under DIDF scheme

B. Projected Operating Statement

Particulars	Unit Value		Actual	Projected (Rs Lakh)									
	Unit	Rs/Unit	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Sales													
Sale of Liquid Milk													
Toned milk	Ltr	33.51	9,580	11,009	11,669	12,370	13,112	14,352	15,216	15,216	15,216	15,216	15,216
Homogenised Cow milk	Ltr	36.39	27,739	29,217	29,842	29,999	30,285	32,108	34,041	34,041	34,041	34,041	34,041
Super Milk	Ltr	40.22	642	734	778	825	874	995	1,055	1,055	1,055	1,055	1,055
Supreme Milk (FCM)	Ltr	42.13	747	769	815	864	916	1,047	1,110	1,110	1,110	1,110	1,110
Homogenised Cow milk in Flexi-pack	Ltr	36.36	0	3,981	5,972	7,963	9,954	10,553	11,188	11,188	11,188	11,188	11,188
Raw Chilled Milk			1										
Total Sales of Liquid Milk			38,708	45,710	49,076	52,020	55,140	59,054	62,610	62,610	62,610	62,610	62,610
Sale of Milk Products													
Butter Milk	Ltr	21.60	319	357	411	472	543	642	758	758	758	758	758
Sweet Lassi	Ltr	37.12	667	512	559	609	664	718	778	778	778	778	778
Mango Lassi	Ltr	41.24		227	261	300	345	388	437	437	437	437	437
Flavoured Milk	Ltr	68.76	267	290	319	350	385	422	462	462	462	462	462
Cream (Bulk)	Ltr	118.77	407	453	498	548	603	628	654	654	654	654	654
Curd	Kg	39.50	6,762	7,562	8,545	9,655	10,911	12,252	13,759	13,759	13,759	13,759	13,759
Peda	Kg	243.07	181	198	218	240	264	289	317	317	317	317	317
Paneer	Kg	219.17	725	875	1,049	1,259	1,511	1,787	2,113	2,113	2,113	2,113	2,113
Mysore Pak	Kg	283.57	171	187	205	226	249	261	274	274	274	274	274
Khoa	Kg	219.51	32	38	46	55	66	82	101	101	101	101	101
Cashew Burfi	Kg	510.59	65	89	107	129	155	187	227	227	227	227	227
Tasty Bite	Kg	186.28	97	105	115	127	139	158	178	178	178	178	178
Local sale of Ghee	Kg	314.31	3,546	1,888	2,123	2,419	2,721	3,005	3,449	3,449	3,449	3,449	3,449
Ghee Sale	Kg	267.49		1,607	1,807	2,059	2,316	2,558	2,935	2,935	2,935	2,935	2,935
Sale of SMP	Kg	200.00	6	0	0	0	0	0	0	0	0	0	0
Sale of other Milk Products (Trading)			601	601	601	601	601	601	601	601	601	601	601
Less: VAT & Exise duty			55										

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit Value		Actual 2016- 17	Projected (Rs Lakh)									
	Unit	Rs/ Unit		2017- 18	2018- 19	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Total Milk product sales			13,792	14,988	16,864	19,050	21,472	23,978	27,043	27,043	27,043	27,043	27,043
TOTAL SALES			52,500	60,699	65,940	71,070	76,612	83,033	89,653	89,653	89,653	89,653	89,653
Revenue per Kg Throughput			34	37	37	38	38						
Raw-material Cost													
Opening stock (Milk/Milk Products)			328	411	411	411	411	411	411	411	411	411	411
Purchase of Milk from DCS	Kg	28.09	36,266	35,885	40,033	44,358	49,152	54,290	59,965	59,965	59,965	59,965	59,965
Purchase of Milk from Other Union	Kg	27.27	4,857	7,963	7,787	7,522	7,049	6,704	6,376	6,376	6,376	6,376	6,376
Price difference payment to societies	Kg	0.00		0	0	0	0	0	0	0	0	0	0
Purchase of SMP	Kg	200.00	175	0	0	0	0	0	0	0	0	0	0
Purchase of Butter	Kg	240.00		0	0	0	0	0	0	0	0	0	0
Purchase of other Milk Products (Trading)			573	573	573	573	573	573	573	573	573	573	573
Closing (Milk/Milk Products)			411	411	411	411	411	411	411	411	411	411	411
Total Cost of Milk			41,787	44,421	48,392	52,453	56,773	61,567	66,915	66,915	66,915	66,915	66,915
Cost of Raw Material per Kg Throughput			27	27	28	28	28						
Gross Margin			10,713	16,278	17,547	18,617	19,838	21,466	22,738	22,738	22,738	22,738	22,738
Gross Margin Per Kg Throughput			7	10	10	10	10						
Variable Costs													
Procurement Transport (DCS)	Kg	0.81	972	1,031	1,150	1,274	1,412	1,559	1,722	1,722	1,722	1,722	1,722
Procurement Transport (Inter Union)	Kg	0.78	143	229	224	216	203	193	183	183	183	183	183
Processing &	Kg	1.81	2,796	2,929	3,177	3,414	3,672	3,978	4,279	4,279	4,279	4,279	4,279

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit Value		Actual	Projected (Rs Lakh)									
	Unit	Rs/Unit		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Manufacturing Expenses													
Packing Cost													
Toned milk	Ltr	0.79	414	260	275	292	309	338	359	359	359	359	359
Homogenised Cow milk	Ltr	0.79		634	648	651	658	697	739	739	739	739	739
Super Milk	Ltr	1.02		19	20	21	22	25	27	27	27	27	27
Supreme Milk (FCM)	Ltr	1.02		19	20	21	22	25	27	27	27	27	27
Homogenised Cow milk in Flexi-pack	Ltr	4.00		438	657	876	1,095	1,161	1,231	1,231	1,231	1,231	1,231
Butter Milk	Ltr	1.50		25	29	33	38	45	53	53	53	53	53
Sweet Lassi	Kg	1.50		21	23	25	27	29	31	31	31	31	31
Mango Lassi	Kg	1.75		10	11	13	15	16	19	19	19	19	19
Flavoured Milk	Kg	25.70		108	119	131	144	158	173	173	173	173	173
Cream (Bulk)	Kg	0.00		0	0	0	0	0	0	0	0	0	0
Curd	Kg	1.23		235	266	301	340	381	428	428	428	428	428
Peda	Kg	8.38		7	8	8	9	10	11	11	11	11	11
Paneer	Kg	3.72		15	18	21	26	30	36	36	36	36	36
Mysore Pak	Kg	25.24		17	18	20	22	23	24	24	24	24	24
Khoa	Kg	3.42		1	1	1	1	1	2	2	2	2	2
Cashew Burfi	Kg	29.07		5	6	7	9	11	13	13	13	13	13
Tasty Bite	Kg	14.75		8	9	10	11	12	14	14	14	14	14
Local sale of Ghee	Kg	9.40	56	63	72	81	90	103	103	103	103	103	
Ghee Sale	Kg	9.40	56	63	72	81	90	103	103	103	103	103	
Distribution Expenses (Poly Pack)	Ltr	0.66	825	777	803	821	843	904	959	959	959	959	959
Distribution Expenses (Flexi Pack)	Ltr	0.60		66	99	131	164	174	185	185	185	185	185
Total of variable costs			5,150	6,964	7,705	8,432	9,202	9,953	10,721	10,721	10,721	10,721	10,721
			3	4	4	4	5						
Contribution			5,562	9,314	9,842	10,185	10,636	11,513	12,017	12,017	12,017	12,017	12,017
			3	5	5	5	5						
Fixed Costs													

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit Value		Actual	Projected (Rs Lakh)									
	Unit	Rs/Unit	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Salaries & Benefits to Employees		7%	1,802	1,928	2,063	2,208	2,362	2,362	2,362	2,362	2,362	2,362	2,362
Additional Salary for the Flexi pack plant		7%		113	121	130	139	139	139	139	139	139	139
Additional Salary for the new Plant		7%			411	440	470	470	470	470	470	470	470
Administrative Expenses		7%	379	405	433	464	496	496	496	496	496	496	496
Marketing Cost		7%	199	213	228	244	261	261	261	261	261	261	261
Technical Inputs cost		7%	437	468	500	535	573	573	573	573	573	573	573
Total Fixed Cost			2,817	3,127	3,757	4,020	4,302	4,302	4,302	4,302	4,302	4,302	4,302
Provision for Development Fund	Rs/Kg	1.25	1,519	1,816	1,891	2,044	2,186	2,339	2,524	2,701	2,701	2,701	2,701
Other Income		0%	705	705	705	705	705	705	705	705	705	705	705
Total Other Income			705	705	705	705	705	705	705	705	705	705	705
Profit Before Depreciation, Interest & Taxes (PBDIT)			1,932	5,076	4,899	4,826	4,853	5,577	5,896	5,719	5,719	5,719	5,719
Interest on existing Term Loan - NDDB			15	7	4	1	0	0	0	0	0	0	0
Interest on existing Term Loan - NABARD				135	109	81	53	25	0	0	0	0	0
Interest on New Term Loan - NDDB				88	399	685	634	539	445	351	256	162	67
Int on other Loan (W.C. & Others)			5	5	5	5	5	5	5	5	5	5	5
Total Interest			20	235	516	772	692	569	450	356	261	167	72
Depreciation													
Existing assets	12%		369	326	289	256	226	200	177	157	139	123	109
Flexi-pack Plant			183	254	229	206	185	167	150	135	122	109	98
New Dairy Plant					0	1,887	1,618	1,388	1,190	1,022	877	754	648
Total Depreciation			552	580	518	2,349	2,029	1,754	1,518	1,314	1,138	986	855

Model DPR for End Borrowers under DIDF scheme

Particulars	Unit Value		Actual	Projected (Rs Lakh)									
	Unit	Rs/Unit	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Total Interest & Depreciation			572	815	1,034	3,121	2,721	2,323	1,968	1,670	1,399	1,153	927
Net Profit before tax			1,360	4,261	3,865	1,705	2,132	3,253	3,929	4,049	4,321	4,567	4,792
Net Profit + Development Fund (on which tax is payable)			2,879	6,077	5,756	3,749	4,318	5,593	6,453	6,751	7,022	7,268	7,493
Income Tax @ 30.9%		30.9%	864	1,878	1,779	1,158	1,334	1,728	1,994	2,086	2,170	2,246	2,315
Net Profit after Tax			496	2,383	2,086	546	798	1,525	1,935	1,963	2,151	2,321	2,477
Accumulated Profit/loss (Op. balance)			426	496	2,582	3,128	3,926	5,451	7,386	9,350	11,500	13,821	16,298
Less Transferred during year			426	496	2,582	3,128	3,926	5,451	7,386	9,350	11,500	13,821	16,298
Accumulated Profit/loss (Cl. balance)			496	2,383	2,086	546	798	1,525	1,935	1,963	2,151	2,321	2,477
Calculation of ROI & DSCR													
PAT +Interest			516	2,618	2,602	1,319	1,489	2,094	2,385	2,320	2,412	2,488	2,549
Net Block			1,961	4,686	4,686	4,686	18,176	18,176	18,176	18,176	18,176	18,176	18,176
New Assets Created			2,725			13,490							
Cumulative Investment			4,686	4,686	4,686	18,176	18,176	18,176	18,176	18,176	18,176	18,176	18,176
ROI		14.34%	11%	56%	56%	7%	8%	12%	13%	13%	13%	14%	14%
Profit After Tax (PAT) + Interest + Deprn			1,068	3,198	3,120	3,667	3,519	3,849	3,902	3,633	3,550	3,474	3,404
Total Repayment			112	555	836	2,308	2,323	2,193	1,794	1,700	1,605	1,511	1,416
DSCR		2.45	10	6	4	2	2	2	2	2	2	2	2

Model DPR for End Borrowers under DIDF scheme

Annex IX: Other monitoring parameters of the Project

No.	Monitoring Indicator	Unit	Base Year (2016-17)	Cumulative Targets		
				2017-18	2018-19	2019-20
A	Milk Procurement Operations					
1	Villages covered by functional DCS /MPP	Nos.				
2	Producer Members of functional DCS/MPP	'000 Nos.				
3	Milk Procurement (own operational area)	TKgPD				
B	Milk Processing Infrastructure					
4	Milk Processing Capacity created/modernised	TLPD				
5	Milk Powder Processing capacity created	MTPD				
6	Value Added Product capacity created					
6.1	Ice Cream	TLPD				
6.2	Cheese	MTPD				
6.3	UHT	TLPD				
6.4	Aseptic Flavoured Milk	TLPD				
6.5	Sachet Flavoured Milk	TLPD				
6.6	Paneer	MTPD				
6.7	Curd	MTPD				
6.8	Ghee	MTPD				
6.9	Lassi	TLPD				
6.10	Butter	MTPD				
C	Sale of liquid milk & milk products					
7	Liquid milk sales	TLPD				
8	Sale of value added products					
8.1	Ice Cream	TLPD				

Model DPR for End Borrowers under DIDF scheme

No.	Monitoring Indicator	Unit	Base Year (2016-17)	Cumulative Targets		
				2017-18	2018-19	2019-20
8.2	Cheese	MTPD				
8.3	UHT	TLPD				
8.4	Aseptic Flavoured Milk	TLPD				
8.5	Sachet Flavoured Milk	TLPD				
8.6	Paneer	MTPD				
8.7	Curd	MTPD				
8.8	Ghee	MTPD				
8.9	Lassi	TLPD				
8.10	Butter	MTPD				
D	Chilling Infrastructure					
9	Village level chilling capacity created by installing BMCs	KL				
10	BMC centres having milk adulteration testing equipment	Nos.				
E	Financial performance					
11	Contribution as % of sale	%				
12	Cash Profit (Net profit after tax + Depreciation)	Rs. Lakh				
13	Net worth	Rs. Lakh				