PROJECT REPORT

for

----------Custom Hiring Center."

Prepared by :

Name &Address

PROJECT ON:-

Establishment of----------Custom Hiring Center

Under Agriculture Infrastructure Fund Scheme

And

Under Sub-Mission on Agriculture Mechanization (SMAM)

"Solution for Hiring Farming Machinery"

Term Loan of Rs.18.64 Lakhs
(Net Loan 18.64 Lakhs Excluding Subsidy)

Name of Promoters

Year 2022-23

Project at a Glance

1	Name of Project	**Establishment of Custom Hiring Center**	
2	Name of the Concern and Proprietor Detial		
3	Address		
4	Aadhar Card	-	
5	Mobile No		
6	Scheme Name	Under Subsidy Scheme of Sub Mission on Agriculture Mechanization with Agriculture Infrastructure Fund of Central Govt. (A.I.F)	
7	Cost of Project (Rs In Lacs)	1. Tractor	17.31
		2. Other Equipment	7.54
		Total Cost of Project	**24.85**
8	Means of Finance (Rs In Lacs)	1. Own Fund	6.21
		2. Term Loan	18.64
		3. Grant SMAM	0.00
		Total Means of Finance	**24.85**
9	Period of Term Loan	7 Year (14 Equated Six monthly Installment)	
10	Amount of Term Loan.	Rs.18.64 Lakhs (Including Subsidy) (Net Loan Rs 18.64)	
11	DSCR	Average 2.87	
12	Payback Period	3 Year Two Months Approx	
13	Break Even Point Average	32%	

Prepared by :

Name &Address

Brief Profile

Introduction:

Indian agriculture is under going a gradual shift from dependence on human power and animal power to mechanical power because increasing keep for upkeep of animal and growing scarcity of human labour . Further use of mechanical power has a direct bearing on the productivity of a crop apart from reducing the drudgery and facilitating timelessness of agriculture operations .Thus there is a strong need for taking farm mechanization CHC aims to such mechanizations.

----------is setting up a Custom Hiring Center at Village-, ------ Block & Dist---Kerala at In this they will help formers in the nearby area in farm mechanization.

In Custom Hiring Center they will provide tractors and ancillaries tofarmers on custom hiring basis wherein he will work with farmers in their farm on payment basis.

Advantage of Custom hiring

1. Provides access to small and marginal farmers to costly farm machinery
2. Facilitates timeliness in farm operations and efficient use of inputs
3. Promotes adoption of climate resilient practices and technologies by farmers because of availability of appropriate machines at reasonable hiring charge
4. Reduces drudgery
5. Promotes increase in cropping intensity wherever feasible
6. Facilitates crop residue recycling and prevents burning of residues
7. Reduction in cost of cultivation

Promoters:

Objective:

- To make available various farm machinery / equipment to small and marginal.
- Farmers To offset the adverse economies of scale due to high cost of individual ownership.
- To improve mechanization in places with low farm power availability
- To provide hiring services for various agricultural machinery/implements applied.
- For different operations. To expand mechanized activities during cropping seasons in large areas especially In small and marginal holdings.
- To provide hiring services for various high value crop specific machines applied for different operations.

Scheme :

- Scheme Declared on ----------notification no----------by Ministry of Agriculture.

- The government of Kerala will provide subsidy to establish Hi-tech Hub Centre. The assistance to each centre will be to the tune of **40%of the cost** of machineries for all categories person and implements purchased for providing Custom Hiring Services to farmers, up to maximumof **Rs. 10 lakhs** under **credit linked back ended Subsidy. and** Central Government will Provide Additional **Interest Subvention of 3%** Under AIF Scheme.
- Loan from Bank Can Be taken Without any Collateral Security Under CGTMSE Scheme in Which Government Given Gurantee to Bank for Loan. Cost of CGTMSE Fees will be Reimbursed by Central Government Under AIF Scheme.
- Under Agriculture Infra Fund Scheme of government of India interest subvention of 3% is to be received on bank loan & Collateral Guarantee is to be received under CGTMSE Scheme of Government of India. To avail benefit under Agriculture Infra Fund (AIF) Scheme application has to be applied through portal 'https://www.agriinfra.dac.gov.in.

- The machines and implements to be kept compulsorily for Agriculturecrop at each Hitech Hub center are as follows-

S.no	Implements/ Machines
1	Tractor (1)
2	Reversible Plough(1)
3	Rotavator (1)
4	Cultivator or Disk Hero (1)
5	Seed cum fertilizer Drill /Zero Til Seed Cum Fertilizer Drill (1)
6	Tractor Operated Thresher or Straw-reaper. (1)
7	Raised Bed Planter or Rice Trans Planter (1)

- All Equipment and Machines which was purchased will be registered from Directorate of Agriculture Engineering.
- Dealer from which Equipment will be registered from Directorate of Agriculture Engineering.

Period of Loan :

Loan Period will not be less than 4 years (Lock In Period) and maximum 9 Years. Before closing of loan from 4 year he is not eligible for Subsidy. and Maximum Moratorium Period 6 Months.

Margin Money

S.no	**Cost of Project**	**Margin Money**	**Eligible Subsidy**
1	Up to 18 Lacs	20 % of Cost of Project	40% of cost of Project maximum Rs. 7.20 Lacs
2	Rs. 18 lacs upto Rs.25 Lacs	25% of Cost of Project	40% of cost of Project maximum Rs. 10 Lacs

Social and Economic Benefits :

Economic benefits :

- Increasing the efficiency of labour
- Reducing costs
- Increasing the area cultivated
- Undertaking more timely production
- Improving the quality of cultivation
- Increasing yields
- Adopting crop diversification
- Reducing harvest and post-harvest losses
- Earning a rental income through hiring farm-power services to others

Social benefits :

- Reducing drudgery and workloads
- Improving safety
- Gaining prestige
- Encouraging youth and more innovative people to remain in rural areas and work on the land leads to Social and Economic Benefits

PARTICULARS	AMOUNT
Land	Owned
Farm Development	Nil
Farms Building	Owned
Tractors (As per Annexure-1)	1731191
Other Agriculture Implements (As per Annexure-1)	754256
TOTAL	**2485447**

MEANS OF FINANCE

S.NO.	PARTICULARS	AMOUNT
1	Own Capital	621447
2	Term Loan	1864000
3	Grant	
TOTAL		**2485447**

(* Own Margin Increase to Set Loan Amount in Thousand)

List of Machinery and Ancillaries with Model and Manufacture Details

SlnO	Particular	Manufacture Name	Model/Brand	Dealer (To be Purchased From)	Qnty.	Amount
1	Tractor (1)	Mahindra and Mahindra Ltd Swaraj Divison	8 55 FE / Swaraj	M/S MahaLaxmi Motors	1	846491
2	Tractor (2)	Mahindra and Mahindra Ltd (Farm Equipment Sector)	Arjun Novo 605 DII / Mahindra	Mahalaxmi Motors	1	884700
	Total cost of Tractor				(A)	1731191
3	Hydraulic Reversible Plough	Solanki Loha Udhyog	Hydraulic 2 Bottom / Solanki	Gore Traders & Machinery	1	75040
4	Rotavator	Vasundhara Krishi Yantra	VKY-RT748 / Vasundhara Krishi Yantra	Gore Traders & Machinery	1	115000
5	Caltivator	Solanki Loha Udhyog	Rigid Tyne (9 Tynes) / Solanki	Gore Traders & Machinery	1	30240
6	Seed cum fertilizer Drill/Zero Til Seed Cum Fertilizer Drill	Solanki Loha Udhyog	9 Tynes, Riyer/Front wheel / Solanki	Gore Traders & Machinery	2	91840
7	Tractor Operated Multycrop /Excel Peddyflow Thresher	Vikash Engineering Works	Three Fan Multicrop Thresher / VEW	Gore Traders & Machinery	1	355000
8	Raised Bed Planter or Rice Trans Planter	Balaji Engineering Works	MCP- 54 / Balaji	Gore Traders & Machinery	1	87136
	Total cost of Implements				**(B)**	**754256**
	Total Cost of All Farms Machinery (A+B)					**2485447**

PROJECTED PROFITABILITY CHART

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
Revenue Gross	2136000	2269500	2403000	2536500	2670000	2670000	2670000
TOTAL :-	2136000	2269500	2403000	2536500	2670000	2670000	2670000
COST OF OPERATION							
Fual Consumption Charges	894240	950130	1006020	1061910	1117800	1117800	1117800
Maintance Cost	124272	105632	89787	76319	64871	55140	46869
Operator & Manpower Expenses	152000	167200	183920	202312	222543	222543	222543
SUB TOTAL :-	1170512	1222962	1279727	1340541	1405214	1395483	1387212
GROSS PROFIT	965488	1046539	1123273	1195959	1264786	1274517	1282788
GROSS PROFIT RATIO	45%	46%	47%	47%	47%	48%	48%
Insurance & Other Misc Expenses Exp.	124272	105632	89787	76319	64871	55140	46869
Depreciation	372817	316895	269361	228956	194613	165421	140608
Interest Charges Of Term loan	148290	126328	104367	82405	60444	38482	16521
TOTAL	645379	548855	463514	387680	319928	259043	203998
NET PROFIT BERORE TAX	320109	497684	659759	808279	944858	1015473	1078790
NET PROFIT BEFORE TAX RATIO	15%	22%	27%	32%	35%	38%	40%
INCOME TAX	7011	24768	72928	117484	158458	179642	198637
NET PROFIT AFTER TAX	313098	472915	586831	690796	786401	835831	880153
CASH GENERATION	685915	789810	856192	919752	981014	1001252	1020761
NET PROFIT RATIO	15%	21%	24%	27%	29%	31%	33%
TRANSFERRED TO BALACE SHEET	313098	472915	586831	690796	786401	835831	880153

DEPRECIATION ON FIXED ASSETS (AS PER W.D.V. METHOD)

Calculation of Depreciation on Fixed Assets			YEAR						
Details of Assets	Rate		I	II	III	IV	V	VI	VII
Tractors	15%	Cost	1731191	1471512	1250785	1063167	903692	768138	652917
		Deprn	259679	220727	187618	159475	135554	115221	97938
Implements	15%	Cost	754256	641118	544950	463207	393726	334667	284467
		Deprn	113138	96168	81743	69481	59059	50200	42670
Total	WDV		2112630	1795735	1526374	1297418	1102805	937384	796776
	Deprn		372817	316895	269361	228956	194613	165421	140608

Details of Revenue

(Year Ending 31st March)									
S. No	Particular		2022	2023	2024	2025	2026	2027	2028
a	Installed Capacity	Nos	(Working Hours)						
1	TRACTOR WITH REVERSIBLE PLOUGH	1	400	400	400	400	400	400	400
2	TRACTOR WITH ROTAVATOR	1	400	400	400	400	400	400	400
3	TRACTOR WITH CULTIVATOR	1	300	300	300	300	300	300	300
4	TRACTOR WITH SEED DRIL/HAPPY SEEDER	2	400	400	400	400	400	400	400
5	TRACTOR WITH MULTYCROP THRESHER	1	400	400	400	400	400	400	400
6	TRACTOR WITH RAIS BED PLANTER	1	400	400	400	400	400	400	400
b	Utilization		80%	85%	90%	95%	100%	100%	100%
C	No of Tractor		2	2	2	2	2	2	2
d	Net Harvesting								
1	TRACTOR WITH REVERSIBLE PLOUGH		320	340	360	380	400	400	400
2	TRACTOR WITH ROTAVATOR		320	340	360	380	400	400	400
3	TRACTOR WITH CULTIVATOR		240	255	270	285	300	300	300
4	TRACTOR WITH SEED DRIL/HAPPY SEEDER		640	680	720	760	800	800	800
5	TRACTOR WITH MULTYCROP THRESHER		320	340	360	380	400	400	400
6	TRACTOR WITH RAIS BED PLANTER		320	340	360	380	400	400	400
	Total Hours		2160	2295	2430	2565	2700	2700	2700
e	Revenue	Rate P/H							
	TRACTOR WITH REVERSIBLE PLOUGH	1000	320000	340000	360000	380000	400000	400000	400000
	TRACTOR WITH ROTAVATOR	1000	320000	340000	360000	380000	400000	400000	400000
	TRACTOR WITH CULTIVATOR	900	216000	229500	243000	256500	270000	270000	270000
	TRACTOR WITH SEED DRIL/HAPPY SEEDER	1000	640000	680000	720000	760000	800000	800000	800000
	TRACTOR WITH MULTYCROP THRESHER	1000	320000	340000	360000	380000	400000	400000	400000
	TRACTOR WITH RAIS BED PLANTER	1000	320000	340000	360000	380000	400000	400000	400000
	Total Revenue		2136000	2269500	2403000	2536500	2670000	2670000	2670000

Details of Direct Expenses

Details of Fuel Consumption Expenses

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
Total Harvesting Running Hours	2160	2295	2430	2565	2700	2700	2700
Fual Consumption Per Ltr per Hour (Average)	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Rate of Fual Per Ltr	92	92	92	92	92	92	92
Fual Consumtion Expenses	894240	950130	1006020	1061910	1117800	1117800	1117800

Details of Maintenance Cost

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
Total Cost of Tractor	1731191	1471512	1250785	1063167	903692	768138	652917
Average Maintenance for Tractor 5 % of Cost (Average)	5	5	5	5	5	5	5
Expenses for Tractor Maintenance (A)	86560	73576	62539	53158	45185	38407	32646
Total Cost of Implements	754256	641118	544950	463207	393726	334667	284467
Average Maintenance for Implements 5 % of Cost (Average)	5	5	5	5	5	5	5
Expenses for Tractor Maintenance (B)	37713	32056	27248	23160	19686	16733	14223
Total Maintenances Cost (A+B)	124272	105632	89787	76319	64871	55140	46869

Details of Operator Salary & Manpower Expenses

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
No of Driver	1	1	1	1	1	1	1
No of Helper Driver/Supporter	1	1	1	1	1	1	1
Salary Per Months of Driver	10000	11000	12100	13310	14641	14641	14641
Salary Per Months of Helper Driver	9000	9900	10890	11979	13177	13177	13177
No of Months Working (Average)	8	8	8	8	8	8	8
Total Salary & Manpower Expenses	152000	167200	183920	202312	222543	222543	222543

PROJECTED BALANCE SHEET							
YEAR ENDED	I	II	III	IV	V	VI	VII
LIABILITIES	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
CAPITAL	0	634545	757460	894291	1035087	1171488	1332319
ADD: ADD DURING THE YEAR	621447	0	0	0			
RESERVES AND SURPLUS	313098	472915	586831	690796	786401	835831	880153
LESS:WITHDRAWAL	300000	350000	450000	550000	650000	675000	700000
TOTAL CAPITAL	634545	757460	894291	1035087	1171488	1332319	1512472
SECURED LOANS							
TERM LOAN	1597800	1331600	1065400	799200	533000	266800	0
Term Loan (SUBSIDY 40%)		0	0	0	0	0	
TOTAL :-	2232345	2089060	1959691	1834287	1704488	1599119	1512472

PROJECTED BALANCE SHEET							
SUNDRY ASSETS	I (Esti)	II (Proj)	III (Proj)	IV (Proj)	V (Proj)	VI (Proj)	VII (Proj)
FIXED ASSETS							
GROSS BLOCK	0	2485447	2485447	2485447	2485447	2485447	2485447
ADDITION IN FIXED ASSETS	2485447	0	0	0	0	0	0
LESS: DISPOSAL	0	0	0	0	0	0	0
LESS: DEPRECIATION	372817	689712	959073	1188029	1382642	1548063	1688671
NET BLOCK	2112630	1795735	1526374	1297418	1102805	937384	796776
CURRENT ASSETS							
DEPOSIT OF SUBSIDY 40%	0	0	0	0	0	0	0
CASH & BANK BALANCE	119715	293325	433317	536869	601683	661735	715696
TOTAL CURRENT ASSETS	119715	293325	433317	536869	601683	661735	715696
TOTAL :-	2232345	2089060	1959691	1834287	1704488	1599119	1512472

PROJECTED CASH FLOW STATEMENT **EXHIBITS NO F:VII**

PARTICULARS	Pre-Oper.	**I (Esti)**	**II (Proj)**	**III (Proj)**	**IV (Proj)**	**V (Proj)**	**VI (Proj)**	**VII (Proj)**
SOURCES OF FUNDS								
NET PROFIT		313098	472915	586831	690796	786401	835831	880153
DEPRECIATION		372817	316895	269361	228956	194613	165421	140608
INCREASE IN CAPITAL	6214		0	0	0	0	0	0

	47							
INCREASE IN CURRENT LIABILITY	2662 00	0	0	0	0			
INCREASE IN TERM LOAN	15978 00		0	0	0	0	0	0
INCREASE IN SUBSIDY	0		0	0	0	0	0	0
TOTAL:-	**24854 47**	**685915**	**789810**	**856192**	**919752**	**981014**	**1001252**	**1020761**
DISPOSITION OF FUNDS								
INVESTMENT IN FIXED ASSETS	24854 47		0	0	0	0	0	0
SUBSIDY RECEIVABLE								
WITHDRAWALS FROM CAPITAL		300000	350000	450000	550000	650000	675000	700000
DECREASE IN CURRENT LIB.		0	0	0	0	0	0	0
REPAYMENT OF TERM LOAN		266200	266200	266200	266200	266200	266200	266800
TOTAL:-	**24854 47**	**566200**	**616200**	**716200**	**816200**	**916200**	**941200**	**966800**
OPENING BALANCE OF CASH	**0**	**0**	**119715**	**293325**	**433317**	**536869**	**601683**	**661735**
SURPLUS DURING THE YEAR	0	119715	173610	139992	103552	64814	60052	53961
CLOSING BALANCE OF CASH	**0**	**119715**	**293325**	**433317**	**536869**	**601683**	**661735**	**715696**
check	-	0	-	-	-	-	-	-

BALANCE SHEET ANALYSIS							
PARTICULARS	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**
	(Esti)	**(Proj)**	**(Proj)**	**(Proj)**	**(Proj)**	**(Proj)**	**(Proj)**
REVENUE PER MONTH	178000	189125	200250	211375	222500	222500	222500
CONSUMTION PER MONTH	74520	79178	83835	88493	93150	93150	93150
TANGIBLE NET WORTH	634545	757460	894291	1035087	1171488	1332319	1512472
TERM LIABILITIES	1597800	1331600	1065400	799200	533000	266800	0
TOTAL OUTSIDE LIABILITIES	1597800	1331600	1065400	799200	533000	266800	0
CURRENT ASSETS	119715	293325	433317	536869	601683	661735	715696
CURRENT LIABILITY	266200	266200	266200	266200	266200	266800	0
CURRENT RATIO	0.45	1.10	1.63	2.02	2.26	2.48	0
DEBT/EQUITY RATIO	**2.52**	**1.76**	**1.19**	**0.77**	**0.45**	**0.20**	**0.00**

STATEMENT SHOWING COMPUTATION OF BREAK EVEN SCALE OF OPERATION

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
A .TOTAL RECEIPTS	**2136000**	**2269500**	**2403000**	**2536500**	**2670000**	**2670000**	**2670000**
B. VARIABLE EXPENSES							
Fual Consumption	894240	950130	1006020	1061910	1117800	1117800	1117800
Salary & Wages	152000	167200	183920	202312	222543	222543	222543
Repairs & Maintenance	124272	105632	89787	76319	64871	55140	46869
Other Direct Expenses	124272	105632	89787	76319	64871	55140	46869
SUB TOTAL(B)	**1294785**	**1328593**	**1369514**	**1416859**	**1470085**	**1450624**	**1434082**
C . CONTRIBUTION	**841215**	**940907**	**1033487**	**1119641**	**1199915**	**1219376**	**1235918**
D. SEMI VARIABLE EXPENSES/FIXED EXPENSES:							
Interest on Term loan	148290	126328	104367	82405	60444	38482	16521
Depreciation & amortization of prel. exps.	372817	316895	269361	228956	194613	165421	140608
SUB TOTAL(D)	521107	443223	373728	311361	255057	203903	157129
BREAK EVEN SCALE OF OPERATION	**62**	**47**	**36**	**28**	**21**	**17**	**13**
PRESENT CAPACITY UTILISATION D/CX100		**13**	**10**	**7**	**5**	**3**	**1**
CASH BEP AT INSTALLED CAPACITY	**18**						
Check Point	-	-	-	-	-	-	-

REPAYMENT SCHEDULE OF TERM LOAN

YEAR		OPENING BALANCE	EMI	REP.OF PRINCIPAL	CLOSING BALANCE	INTEREST 8.25%	TOTAL OF INTEREST
YEAR 1							
	I	18,64,000	1,33,100	1,33,100	17,30,900	76,890	
	II	17,30,900	1,33,100	1,33,100	15,97,800	71,400	1,48,290
YEAR 2							
	I	15,97,800	1,33,100	1,33,100	14,64,700	65,909	
	II	14,64,700	1,33,100	1,33,100	13,31,600	60,419	1,26,328
YEAR 3							
	I	13,31,600	1,33,100	1,33,100	11,98,500	54,929	
	II	11,98,500	1,33,100	1,33,100	10,65,400	49,438	1,04,367
YEAR 4							
	I	10,65,400	1,33,100	1,33,100	9,32,300	43,948	
	II	9,32,300	1,33,100	1,33,100	7,99,200	38,457	82,405
YEAR 5							

	I	7,99,200	1,33,100	1,33,100	6,66,100	32,967	
	II	6,66,100	1,33,100	1,33,100	5,33,000	27,477	60,444
YEAR 6							
	I	5,33,000	1,33,100	1,33,100	3,99,900	21,986	
	II	3,99,900	1,33,100	1,33,100	2,66,800	16,496	38,482
YEAR 7							
	I	2,66,800	1,33,100	1,33,100	1,33,700	11,006	
	II	1,33,700	1,33,700	1,33,700	0	5,515	16,521

* Loan Amount Consider After Duction of Subsidy.

** Last Installment Adjusted for Rounding off of Installment Amount.

*** Interest rate Assumed 10% and Less 3% Interest Subvention under AIF.

D.S.C.R. CHART

PARTICULARS	I	II	III	IV	V	VI	VII
	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
Net Profit after Tax	313098	4,72,915	586831	690796	786401	835831	880153
Interest	148290	126328	104367	82405	60444	38482	16521
Depreciation	372817	316895	269361	228956	194613	165421	140608
TOTAL (A)	**834204**	**916139**	**960559**	**1002157**	**1041457**	**1039734**	**1037281**
Interest	148290	126328	104367	82405	60444	38482	16521
Installment of Term Loan	266200	266200	266200	266200	266200	266200	266800
TOTAL (B)	**414490**	**392528**	**370567**	**348605**	**326644**	**304682**	**283321**
GROSS D.S.C.R. (A/B)	**2.01**	**2.33**	**2.59**	**2.87**	**3.19**	**3.41**	**3.66**
GROSS AVERAGE D.S.C.R.	**2.87**						

PERFORMANCE AND FINANCIAL INDICATORS

Particulars	I (Esti)	II (Proj)	III (Proj)	IV (Proj)	V (Proj)	VI (Proj)	VII (Proj)
Revenue Gross	21,36,000	22,69,500	24,03,000	25,36,500	26,70,000	26,70,000	26,70,000
Net Sales	21,36,000	22,69,500	24,03,000	25,36,500	26,70,000	26,70,000	26,70,000
% rise/fall (-) in net sales	-	6	6	6	5	-	-
Operating Profit	3,20,109	4,97,684	6,59,759	8,08,279	9,44,858	10,15,473	10,78,790
Profit Before INTEREST & DEPRICIATION	8,41,215	9,40,907	10,33,487	11,19,641	11,99,915	12,19,376	12,35,918
PBDIT/ Sales (%)	39	41	43	44	45	46	46
Profit Before tax	3,20,109	4,97,684	6,59,759	8,08,279	9,44,858	10,15,473	10,78,790
PBT/ Sales (%)	15	22	27	32	35	38	40
Profit After Tax	3,13,098	4,72,915	5,86,831	6,90,796	7,86,401	8,35,831	8,80,153
Cash Accrual	6,78,904	7,65,042	7,83,265	8,02,268	8,22,556	8,21,610	8,22,124
Paid Up Capital	3,21,447	2,84,545	3,07,460	3,44,291	3,85,087	4,96,488	6,32,319
TNW	6,34,545	7,57,460	8,94,291	10,35,087	11,71,488	13,32,319	15,12,472
Adjusted TNW	6,34,545	7,57,460	8,94,291	10,35,087	11,71,488	13,32,319	15,12,472
TOL/TNW (times)	2.52	1.76	1.19	0.77	0.45	0.20	-
Adjusted TOL/TNW	2.52	1.76	1.19	0.77	0.45	0.20	-
NWC	(1,46,485)	27,125	1,67,117	2,70,669	3,35,483	3,94,935	7,15,696
DSCR	2.01	2.33	2.59	2.87	3.19	3.41	3.66
Avg DSCR	2.87						
Payback Period			3 Year Two Months		Approx		
BREAK EVEN SCALE OF OPERATION AT	62	47	36	28	21	17	13
BREAK EVEN SCALE OF OPERATION AT							
Average Breakeven Point					32		
CASH BEP AT INSTALLED CAPACITY	18	13	10	7	5	3	1

FORM VI								
CASH FLOW STATEMENT								
	NAME OF THE UNIT							
	YEAR	I	II	III	IV	V	VI	VII
	STATUS	(Esti)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)	(Proj)
		I	II	III	IV	V	V	V
	SOURCES OF FUNDS							
	NET PROFIT BEFORE TAXES	3,13,098	4,72,915	5,86,831	6,90,796	7,86,401	8,35,831	8,80,153
	DEPRECIATION	3,72,817	3,16,895	2,69,361	2,28,956	1,94,613	1,65,421	1,40,608
	INCREASE IN CAPITAL	6,21,447	-	-	-	-	-	-
	INCREASE IN CURRRENT LIAB.	2,66,200	-	-	-	-	-	-
	INCREASE IN TERM BORROWINGS	13,31,600	-	-	-	-	-	-
	INCREASE IN BORROWINGS(SUBSIDY)	-						
	INCREASE IN BANK BORROWINGS (FOR WORKING CAPITAL)	-	-	-	-	-	-	-
	INCRESE IN UNSECURED LOAN		-	-	-	-	-	-
	DECREASE IN CURRENT ASSETS	-	-	-	-	-	-	-
	TOTAL:-	**29,05,162**	**7,89,810**	**8,56,192**	**9,19,752**	**9,81,014**	**10,01,252**	**10,20,761**
	DISPOSITION OF FUNDS							
	INVESTMENT IN FIXED ASSETS	24,85,447	-	-	-	-	-	-
	DECREASE IN BANK BORROWING	-	-	-	-	-	-	-
	INCREASE IN SUBSIDY RECEIVABLE			-	-	-	-	-
	DECREASE IN CURRENT LIB.	-	-	-	-	-	-	-
	REPAYMENT OF TERM LOAN	-	2,66,200	2,66,200	2,66,200	2,66,200	2,66,200	2,66,800
						-	-	-
	DECREASE IN TERM LIABILITY (SUBSIDY ADUSTED)							
	WITHDRAWAL FROM CAPITAL	3,00,000	3,50,000	4,50,000	5,50,000	6,50,000	6,75,000	7,00,000
	DECREASE IN UNSECURED LOAN							
	DEPRECIATION WRITTEN OFF	-	-	-	-	-	-	-
	TOTAL:-	**27,85,447**	**6,16,200**	**7,16,200**	**8,16,200**	**9,16,200**	**9,41,200**	**9,66,800**
	OPENING BALANCE OF CASH	**-**	**1,19,715**	**2,93,325**	**4,33,317**	**5,36,869**	**6,01,683**	**6,61,735**
	SURPLUS DURING THE YEAR	**1,19,715**	**1,73,610**	**1,39,992**	**1,03,552**	**64,814**	**60,052**	**53,961**
	CLOSING BALANCE OF CASH	**1,19,715**	**2,93,325**	**4,33,317**	**5,36,869**	**6,01,683**	**6,61,735**	**7,15,696**
	Check	-	-	-	-	-	-	-

Model Detailed Project Report

Under the Agriculture Infrastructure Fund Scheme

(Ministry of----------)

Prepared by

Name &Address

Contact Details

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1 EXECUTIVE SUMMARY

Desiccated coconut is coconut meat that is flaked and dried and is available in unsweetened and sweetened forms. It is an easy topping for a variety of dishes ranging from desserts and cereals to Asian curries for a flavorful addition that also contains a nutritional value.

Desiccated coconut has traditionally been used in a lot Asian dishes as toppings and ingredients in curries, cooked cereal and baked food. Europe is the largest importer for desiccated coconut. In Western Europe, Belgium is the major consumer for desiccated coconut followed by Germany, Netherlands and U.K. In North American region U.S. accounts for most of desiccated coconut. European market for desiccated coconut is expected to show considerably high growth. In Asia-Pacific region India, Singapore are the major consumers for desiccated coconuts.

The meat is shredded or disintegrated and dried in hot air driers at 140-170oF to 2 per cent moisture content (fat 65-68 % and Solids nonfat 30-32%) and used in the manufacture of cakes, pastries and chocolates. Desiccated coconut is the disintegrated, white kernel of coconut processed under strict hygienic conditions and dried to a moisture content of below 3.0 per cent. It is a food product which is ready and fit for direct human consumption.

TABLE 1

PROJECT AT GLANCE

1	Name of the proposed project	Coconut Processing Unit
2	Name of the entrepreneur/FPO/SHG/ Cooperative	----------
3	Nature of proposed project	
4	Registered office	
5	Project site/location	
6	Names of Partner (if partnership)	
7	No of shareholders (if company/FPC)	
8	Technical advisor	
9	Marketing advisor/partners	
10	Proposed project capacity	375 Kg/day (60, 70 & 80% capacity utilization in the 2nd, 3rd and 4th years' onwards respectively)
11	Raw materials	Coconut Processing Unit
12	Major product outputs	Desiccated coconut
13	Total project cost :	Rs. 19.37 Lakhs
	· Land development, building & civil : construction	Rs.3.50 Lakh
	· Machinery and Equipment's : (Lakhs)	Rs .10.25 Lakh
	· Utilities (Power & water facilities) : (Lakhs)	Rs. 0.8 Lakh
	· Miscellaneous fixed assets : (Lakhs)	Rs. 0.8 Lakh
	· Pre-operative expenses : (Lakhs)	Rs. 1.00 Lakh
	· Contingencies : (Lakhs)	Rs. 2.00 Lakh
	· Working capital margin : (Lakhs)	Rs. 1.02 Lakh
14	Working capital requirement	
	· 2nd year (Lakhs)	Rs. 2.54 Lakh
	· 3rd year (Lakhs)	Rs. 3.02 Lakh
	· 4th year (Lakhs)	Rs. 3.49 Lakh
15	Means of Finance	
	· Subsidy grant by (max 10 lakhs) : :	Rs. 10.00 Lakhs
	· Promoter's contribution (min 20%)	Rs. 3.87 Lakhs
	· Term loan (45%) :	Rs. 5.49 Lakhs
16	Debt-equity ratio	0.73
17	Profit after Depreciation, Interest & Tax	
	· 2nd year (Lakhs)	Rs. 4.99 Lakh
	· 3nd year (Lakhs)	Rs. 2.37 Lakh
	· 4nd year (Lakhs)	Rs. 3.54 Lakh
18	Average DSCR	2.03
19	Benefit-Cost Ratio	1.04

20	Term loan repayment	7 Years with 1year grace period
21	Payback period for investment	4years

2 OBJECTIVE OF THE PROJECT

The Prime Objective of the Report is to present a Viable Bankable Model of **"Desiccated Coconut Manufacturing Unit"** through adoption of appropriate technology, utilization of resources, quality production and suitable market strategy.

Some important objectives behind setup of "Desiccate Coconut Processing Unit" are:

- ✓ The prime objective is to setup this unit is to produce & make available quality product in most hygienic conditions with good packaging, untouched & with very less human interference during entire operations till market.
- ✓ To produce & market safe, quality-assured products with highest nutrient value than existing one.
- ✓ Improve customer's nutrition by allowing them to consume quality processed product.
- ✓ Empowering the lifestyle of promoter by adopting proper techniques in production and marketing of final product.
- ✓ Proper utilization of land, water, labor & other resources for better plant economics.
- ✓ Employment generation for youth and women in surrounding areas.

3 PROJECT PROFILE

TABLE 2

PROJECT DESCRIPTION

PARTICULARS	DESCRIPTION
Project Name	**"SET UP OF DESICCATED COCONUT MANUFCTURING UNIT"**
Project Location	NA
Project Area	5000 SqFt
Project Proposed Economic Activities	✓ Setup of Desiccated Coconut Manufacturing Unit with optimum capacity
Project Capacity/Day	**Desiccated Coconut Manufacturing Unit** ✓ 375 kg / Day Capacity

4 GENERAL OVERVIEW OF COCONUT PRODUCTION, CLUSTERS, PHM AND VALUE ADDITION IN INDIA

4.1 INTRODUCTION

The coconut palm (Cocos nucifera) serves a multifunctional role in the Caribbean region where it is commonly grown. Small-scale production of products from the coconut palm makes an important contribution to food security. At the industrial level, the coconut industry is an important source of employment and income in rural communities. The coconut produces a variety of products which are consumed in the region and internationally. These include fresh green and dry nuts, copra, coconut oil and coconut water among others. Coconut oil is consumed as food while a significant amount goes into the oleo-chemical industry. It is also used in food preparation. Additionally, the shell is used for various fibres, charcoal, and other products not yet fully commercialized. There is potential for supplies to both the regional and export markets in the USA, Canada, and European Union markets which are major destinations for coconut oil and coconut products. Principal among these is the suspected adverse health and nutrition effects on humans but studies, such as that conducted by Spade and Dietchy (1988), have shown that coconut oil prevents the formation of hepatic cholesterol esters. In addition to this, the lauric acid found in coconut oil provides the disease-fighting fatty acid monolaurin which boosts the immune system. The bottling and storage of coconut water for extended shelf life and improved marketability is still posing a serious challenge to packers. Research & Development could also improve the yield and profitability of coconut intended for the bottled water market or coconut intended for other uses such as oils or fibres.

4.2 ORIGIN, DISTRIBUTIN AND PRODUCTION OF COCONUT

The origin of coconut palm is the subject of controversy. Indian mythology credits the creation of palm with its crown of leafy fronds to the sage Vishwamitra, to prop up his friend King Trishanku when the latter was literally thrown out of heaven by Indra for his misdeeds. In Vadakurungaduthurai, Lord Kulavanangeesar is believed to have taken the form of a coconut tree to help quench the thirst of a pregnant woman. In Kerala, Goddess Bhagavati is believed to be the soul of the coconut tree. One of the Goddess's common epithets is Kurumba which means 'tender coconut'. Folktales of all other areas narrate that coconut originated from head of a dead man or from a dead eel.

Coconut is grown in a large area in India in an area of more than 21 Lakh Hectares. Tamil Nadu, Kerala, Karnataka and Andhra Pradesh are the leading coconut producing states in India and these states account for more than 90 per cent of the total coconut produced in the country. Productivity increased to 11516 fruits per hectare in 2017-18 as compared to 10122 in 2013-14. Between 2014 and 2018, 13,117 hectares were brought under new plantation as compared to 9,561 hectares during 2010-2014. Due to this increase in production of coconut, India has been exporting coconut oil to Malaysia, Indonesia and Sri Lanka since April 2017. Till March 2017, India was importing Coconut oil.

TABLE 3

ALL INDIA AREA PRODUCTION AND PRODUCTIVITY OF COCONUT

Sr. No	States	AREA (In HA)	Production (Million nuts)	Productivity (Nuts/ha)
1	Kerala	770.62	7429.39	9641
2	Tamil Nadu	459.74	6171.06	13423
3	Karnataka	526.38	5128.84	9744
4	Andhra Pradesh	103.95	1427.46	13732
5	West Bengal	29.51	373.58	12658
6	Odisha	50.91	328.38	6451
7	Gujrat	22.81	312.68	13706
8	Maharashtra	22.75	271.24	9775
9	Bihar	14.9	141.38	9489
10	Assam	19.73	132.59	6720
11	Chhattisgarh	1.85	30.54	16508
12	Tripura	7.2	29.51	4097
13	Nagaland	0.33	2.67	8091
14	Other	52.8	388.13	7351
	ALL INDIA	2083.48	22167.45	141386

4.3 HEALTH BENEFITS AND NUTRITIONAL IMPORTANCE

- Coconut kernel is nutritious and rich in fiber, vitamins and minerals.
- Coconut is a natural anti-bacterial and anti-viral food.
- You can get the benefit of coconut fibre by eating fresh or dried coconut and adding coconut to recipes.
- A multitude of studies have demonstrated that dietary fibre protects against heart attacks and strokes.
- Diet rich in coconut kernel prevent digestive disorders and it regulates bowel activity.
- It restores thyroid functions and increases the metabolic rate.

TABLE 4 NUTRITIONAL COMPOSITION OF COCONUT (45 GM EDIBLE PORTION)

Sr.No	Nutrient	Amount
1	Calories	160
2	Carbohydrate	6.8 g
3	Protein	1.5 g
4	Fat	1.5 g
5	Fiber	4 g
6	Sugar	2.8g
7	Sodium	9 mg

4.4 CULTIVATION, BEARING AND POST-HARVEST MANAGEMENTS

Coconut is a tropical crop and is grown where temperature is 25° to 30°C and a fairly well distributed annual rainfall of 125 to 130 cm. In a few places, especially in Orissa, coconut is grown with as little as 100 cm annual rainfall.

Frost and drought are very harmful to coconut. It is predominantly grown under rainfed condition in Kerala and parts of coastal Karnataka and Tamil Nadu. In rest of the country it is mainly grown under irrigated conditions. Well drained rich loamy soils are best suited for its cultivation. It grows well on sandy loams along sea-coasts and in adjoining river valleys.

Saplings of coconut palm are first raised in nurseries and after one year these are transplanted in the garden. The tree starts bearing fruits after 6-7 years and continues to yield harvest for 60-80 years. For better yield the land has to be ploughed or hoed once or twice in a year. Tender nuts are plucked up for juice after 6 or 7 months while ripen nuts are harvested after 11 months for copra and oil. Gener-ally one thousand nuts produce about 150 kg of copra.

The coconut palm is found to grow under varying climatic and soil conditions. It is essentially a tropical plant, growing most!y between 20° N and 20° S latitudes. The ideal temperature for coconut growth and yield is 27 ± 5° C and humidity > 60 per cent. The coconut palm grows well upto an elevation of 600 m above MSL. However, near the equator, productive coconut plantations can be established up to an elevation of about 1000 m above MSL. The palms tolerate wide range in intensity and distribution of rainfall. However, a well distributed rainfall of about 200 cm per year is the best for proper growth and higher yield. In areas of inadequate rainfall with uneven distribution, irrigation is required.

Post-Harvest Management: -

Coconuts are harvested at different stages of maturity for specific uses. For tender nut purpose, harvesting is done when the nuts are six to eight months old. For snowball tender nut and coconut chips

purpose, eight to nine and nine to ten month old nuts are harvested respectively. For the production of copra and other kernel based products, only fully mature coconuts are harvested. The nuts reach full maturity in 11 to 12 months after the inflorescence is opened. At this stage, the output of copra and oil as well as brown fibre would be the maximum. In a study in India, it was found that compared to 12 month old nuts, the copra yield was less to the extent of six percent in 11 month old nuts, 16 percent in 10 month old nuts and 33 percent in nine month old nuts. The corresponding reduction in the percentage of oil was found to be five, 15 and 33 percent respectively. In places where green husks are in demand for the production of white fibre, the usual practice is to harvest 11 month old nuts. The slightly low copra output at this stage would, however, be compensated by the additional income derived from the fibre and its products.

Though the coconut palm produces an average of 12 inflorescences in one year, some of the inflorescences are likely to abort or may fail to develop into fruit bunches due to environmental factors. Consequently, the number of bunches available for harvest is less than12 in many areas. Similarly, the frequency of harvest also varies from country to country and also within the countries. In many areas, six to twelve harvests per year are the usual practice. In the properly managed gardens, harvest at monthly intervals is usually adopted. In the neglected gardens, bunches are not produced regularly and, as such, not more than six harvests are possible in a year. In most of the coconut growing countries, harvesting is done at bimonthly intervals and only fully mature nuts of 12 months or above are harvested.

4.5 PROCESSING AND VALUE ADDITION IN INDIA

There exists a huge scope for coconut based agri-business in India in order to increase the present 8% level of value addition to 25%, thereby value added products becoming a deciding factor in the price movement of coconut to ensure fair, reasonable and steady price to coconut farmers. Foreseeing the imperativeness of high value coconut sector, ICAR CPCRI has developed complete package of practices for the production of virgin coconut oil (hot and fermentation process), coconut chips, coconut honey, jaggery and sugar. The Institute has also developed a technology for collecting coconut inflorescence sap by using a device. The sap thus collected is called Kalparasa. Kalparasa can be preserved up to 45 days under cold condition (in refrigerator) without adding any preservatives and additives with the bottling technology. It has been demonstrated that a farmer tapping 15 coconut palms for Kalparasa could earn on an average Rs. 45,000 a month, while a tapper can earn about Rs. 20,000 per month. For sustaining the value added coconut sector, Women Self Help Groups were formed and equipped with technical know-how and smooth functioning of the coconut value chain was ensured through continuous supply of value added products to the downstream part of the chain. An activated carbon plant was designed for the production of pollution free coconut shell charcoal for community level processing at small scale level. With regard to the commercialization of technologies Institute had successfully developed market for the value added products through well-established link with the retail distributor. Moreover, the marketing functionary was made a part of the value chain through appropriate integration techniques adopted and there by ensured the efficient functioning of the chain.

5 MODEL DESICCATED COCONUT PROCESSING UNDER FME SCHEME

5.1 LOCATION OF PROPOSED PROJECT AND LAND

The coconut processing unit is being installed by M/s. ----------, a Partnership Firm, is located at----------.Currently factory construction is completed. P&M is been procured and installed in the factory. Actualproduction is commenced from January 2020. All expenses is been made through own sourced andcredit availed from vendors.

ABOUT PROMOTERS

Brief details about the Partners are as under :-

Name &details

----------e is ---------- by qualification & having the wide experience in this line of business from ancient business of his father. He is having social contacts which will have an additional edge over the others & will be helpful for the project to get the required raw material from around thearea. He is managing said business and holding 30% shareholding.

Name &details

---------- graduate in Art & having the wide social contacts which will have an additional edge over the others & will be helpful for the project to get the required raw materialfrom around the area. She is 70% shareholder in the said partnership firm.

5.2 INSTALLED CAPACITY OF DESICATED COCONUT PROCESSING PLANT

The maximum installed capacity of the manufacturing unit in the present model project is proposed as 375 kg/day Desiccated coconut. The unit is assumed to operate 300 days/annum @ 8-10 hrs/day. The 1st year is assumed to be construction/expansion period of the project; and in the 2nd year 60 percentcapacity, 3rd year 70 percent capacity and 4th year onwards 80 percent capacity utilization is assumedin this model project.

5.3 RAW MATERIAL REQURIMENT FOR THE UNIT

A sustainable food processing unit must ensure maximum capacity utilization and thus requires an operation of minimum 300 days per year to get reasonable profit. Therefore, ensuring uninterrupted raw materials supply requires maintenance of adequate raw material inventory. The processor must have linkage with producer organizations preferably FPCs through legal contract to get adequate quantity and quality of raw materials which otherwise get spoiled.

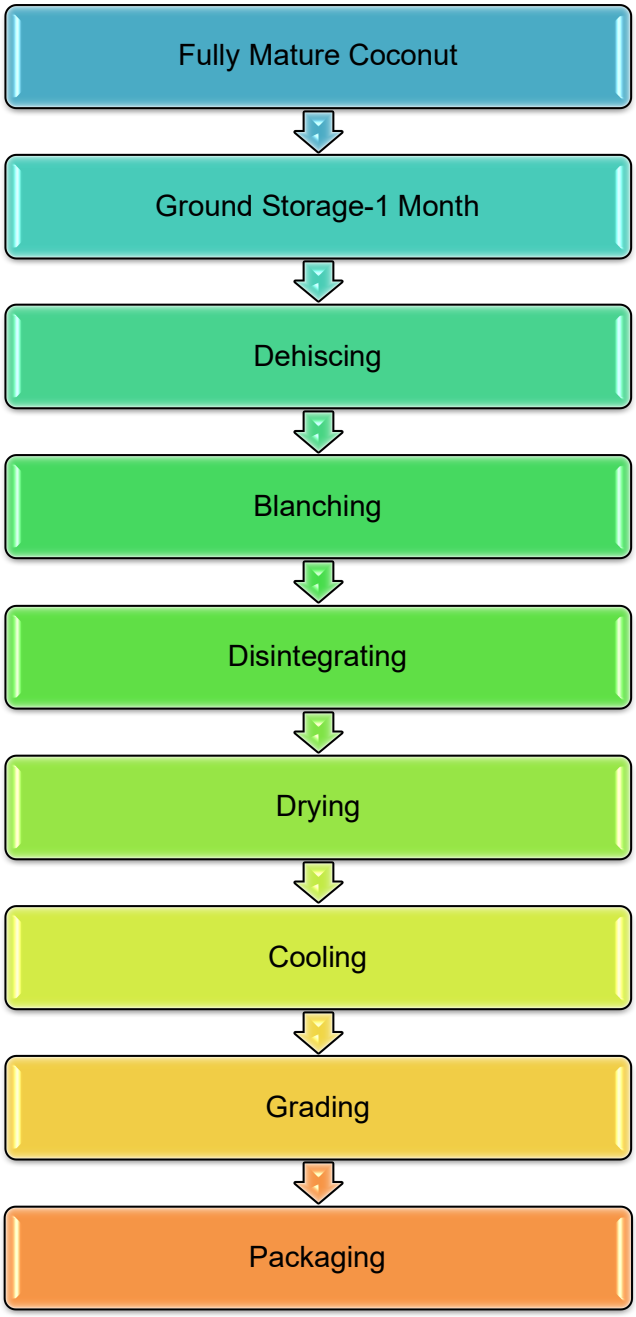
5.4 MANUFACTURING PROCESS

Desiccated Coconut

Desiccated coconut, the edible dried-out shredded coconut meat is prepared from fresh kernel of fully matured coconut and it is available in coarse, medium and fine grades and also in special grades such as threads, strips, granules etc. Good desiccated coconut is crisp, snow white in colour with a sweet,

pleasant and fresh taste of coconut kernel. Desiccated coconut, a commercial product was manufactured from the white part of the meat after removing the brown parings. The meat is shredded or disintegrated and dried in hot air driers at 140-170oF to 2 per cent moisture content (fat 65-68 % and Solids nonfat 30-32%) and used in the manufacture of cakes, pastries and chocolates. Desiccated coconut is the disintegrated, white kernel of coconut processed under strict hygienic conditions and dried to a moisture content of below 3.0 per cent. It is a food product which is ready and fit for direct human consumption.

FIGURE 1 DESICCATED COCONUT PRCOESS FLOWCHART



Harvesting

The stage of maturity of harvest of coconuts for Desiccated Coconut production is very crucial. The quality of desiccated coconut depends upon the quality of coconuts used. Fully matured coconuts of about 11-12 months are used for the preparation of desiccated coconut. Immature nuts tend to produce rubbery kernel. Foul smelling nuts should not be selected.

Ground storage

Ground storage of coconuts should be done for a month period. During this process, the coconut water gets absorbed and the kernel grows thicker and harder thus producing a more suitable material for desiccated coconut production. The coconuts are then de-husked.

De-husking

The de-husked coconut undergoes dehiscing. Dehiscing process involves the following steps

- Deshelling without breaking the kernel - the outer shell is removed. This is done manually or mechanically.
- Paring - removing the brown testa. This is done by scraping it off manually using paring knives. Almost 15% of the kernels is lost as paring during this process. Mechanical paring can also be employed.
- Washing the kernels to remove any remaining testa particles adhering to the surface of the kernel. This should be done using clean potable water.
- Slicing the pared kernel into two halves to release the coconut water.

Blanching

The kernels are immersed in boiling water for 8-10 minutes in a blanching tank. Alternatively passing live steam at 88°C through the kernels for 5 minutes can also be done for blanching of the kernels. Blanching kills fungus and viruses. Blanching is a crucial step to make good quality desiccated coconut powder.

Disintegrating

The blanched coconuts are shredded into small pieces. This is done using a disintegrator, which is an impact pulverize with hammer heads. The hammer heads crush and grind the coconut meat to powdered form.

Disintegrator is capable of producing different sizes from 1mm to 5mm continuously. Different shapes and fancy cuts are also done.

Drying

The granules are then dried in a drier; the temperature in the drying chamber is maintained at about 80-90°C for 40-45 minutes. The maximum moisture content of the end product should be 3%; only at this moisture content, the product will have an increased shelf life. The following types of dryers can be employed.

- **Tray dryer**

  The granules are spread out uniformly in trays. The granules are stirred occasionally during the process to ensure uniform drying. During this process the trays are moved twice and the content raked over in order to ensure uniform drying and to break up any lumps that might have formed.

- **Rotary dryer**

  The arrangement consists of a cylindrical rotating drum into which the coconut powder is fed using a hopper.

- **Vibro fluid bed dryer**

  This is an extension of fluidised bed techniques, by using vibrations as an external aid to fluidisation. Vibrations breakup the inter-particle forces of attraction and improve quality of fluidization.

Cooling & Grading

The dried product is allowed to cool to ambient temperature on stainless steel tables, and then sifted into coarse, medium, fine (macaroon) and extra fine grades. Grading happens in a vibratory screen with different screens such as 12, 14 and 16 mesh. The graded desiccated coconut goes to packing. In fully mechanized plants, the cooling system is integrated into the drying system.

Packaging

The desiccated coconut is packed semi-automatically for bulk packages and automatic form fill seal machines for retail packages.

5.5 MAEKRT DEMAND AND SUPPLY FOR DESICCATED COCONUT

Coconut plays a very significant role in the economy of India. India is the leading coconut producer in the world (31%) with a production of 20440 million nuts from an area of 1975 thousand hectares. The productivity of India is the highest (10614 nuts/ha) among major coconut producing countries in the world. The present production of arecanut in the world is about 1.13 million tonnes from an area of 0.91 million ha. India ranks first in both area and production of the crop. The overall average yield per hectare has improved from 843 kg/ha during 1971 to 1558 kg/ha by the year 2016. Average yield of newly

released coconut varieties is around 120 nuts/ palm/ year which is double the national average of 60 nuts/ palm/ year. By adopting the new varieties, the existing crop productivity levels can be enhanced to the tune of 100% in terms of nut/copra yield. In terms of Gross Value Output, coconut contributes Rs. 95000 million to the national income. Coconut industry provides livelihood to about twelve million people in India. Coconut tree is called as "Kalpa Vriksha" which essentially means that all parts of a coconut tree is useful in one way or the other. Coconut palms have many uses; their leaves are used for thatching traditional houses, making sheds, baskets, and the husk for making coir and other coir products. The shell is used for making charcoal and activated carbon, ladles and spoons, and fruits for making copra and coconut oil and other value added products. Coconut is a staple ingredient in traditional cuisines of many states. Technology for collection of fresh, hygienic and unfermented coconut inflorescence sap (Kalparasa) has been developed. Other value added products like coconut sugar, virgin coconut oil, coconut chips, dark chocolate, drinking chocolate, frozen delicacy etc. and their adoption has improved the income of farmers and also generated employment in coconut sector..

5.6 MARKETING STRATEGY FOR COCONUT PRODUCTS

The increasing urbanization and income offers huge scope for marketing of Coconut based products. Urban organized platforms such as departmental stores, malls, super markets can be attractive platforms to sell well packaged and branded Coconut based products.

5.7 DETAIL PROJECT ASSUMPTIONS

This model DPR for Desiccated Coconut Manufacturing unit unit is basically prepared as a template based on certain assumptions that may vary with capacity, location, raw materials availability etc. An entrepreneur can use this model DPR format and modify as per requirement and suitability.The assumptions made in preparation of this particular DPR are given in This DPR assumes expansion of existing Coconut processing unit by adding Desiccated Coconut manufacturing line. Therefore, land and civil infrastructures are assumed as already available with the entrepreneurs.

Herewith in this DPR, we have considered the assumptions as listed below in the tables of different costs, which may vary as per region, seasons and machinery designs and supplier.

TABLE 5

PROJECT DETAILS

Detailed Project Assumptions		
SR.NO	**Parameter**	**Value**
1	Capacity of the processing unit	1500Kg/Day coconut
2	Utilization of capacity	1st year implementation, 60% in 2nd year, 70% in 3rd year and 80% in 4th year onwards.

3	Working days per year	300 days
4	Working hours per day	8 hrs.
5	Interest on term and working capital loan	12%
6	Repayment period	Seven years with one year grace period is considered.
7	Average prices of raw material	Rs. 10/Kg.
8	Average sale prices	Rs. 70/Kg.
9	Recovery rate	25%

TABLE 6

FIXED CAPITAL INVESTMENT

Sr. No.	Particulars	Size/ Dimensions / Specification	Quantity (No)	Total Area (Sq ft)	Unit Cost (Rs)	Amount (Rs)	Amount (Lakh)
A	**Capital Investment**		**1 Plot**			3,50,000	3.50
	Capital Investment					**3,50,000**	**3.50**
B	**Machinery & Equipment's**						
1	Cabinet type hot air drier with blower, motor and other accessories		1		190000	1,90,000	1.90
2	Disintegrator		1		105000	1,05,000	1.05
3	Vibratory sifting machine		1		50,000	50,000	0.50
4	Platform weighing balance		1		20000	20,000	0.20
5	Packaging Machinery	2000 pack/ hr	1		650000	6,50,000	6.50
6	Miscellaneous		1		10000	10,000	0.10
	Machinery & Equipment's					**10,25,000**	**10.25**
C	**Other Costs**						
C1	**Utilities & Fittings**						
1	Water					80,000	0.80
2	Power						
	Total					**80,000**	**0.80**

C2	**Other Fixed Assets**						
1	Furniture & Fixtures						
2	Electrical Fittings					80,000	0.80
	Total					**80,000**	**0.80**
C3	**Pre-operative Expenses**						
1	Legal Expenses, Start - up Expenses, Establishment Cost, Consultancy fees, Trials and others					1,00,000	1.00
2	Plastic Tray Capacity						
3	Electrical Fittings						
	Total					**1,00,000**	**1.00**
C4	**Contingency**					**2,00,000**	**2.00**
	Total					**2,00,000**	**2.00**
C	**Total Cost (C1+C2+C3+C4)**					**4,60,000**	**4.60**
II	**Total Cost**					**18,35,000**	**18.35**

TABLE 7

WORKING CAPITAL REQUIRMENTS

Sr. No.	Description	Quantity	Unit Rate/ Kg	Total Cost (Rs) /Day	Total Cost (Rs) / Month	Total Cost (Rs) / Year
1	Coconut With husk	1500	10	15,000	3.75	37.50
2	Packaging Material (1 kg)	375	1.5	563	0.14	1.41
3	Labour	10	300/day	3,000	0.75	7.50
4	Supervisor / Manager	1	600/ day	600.00	0.15	1.50
5	Electricity			360	0.09	0.90
6	Transportation			500	0.13	1.25
7	Miscellaneous			300.00	0.08	0.75
	Total Cost			**20,322.50**	**5.08**	**50.81**
	Margin For Working Capital 20%			**0.04**	**1.02**	**10**

TABLE 8 TOTAL PROJECT COST

Sr. No.	Particulars	Amount In Lakhs
i	Land Development & Building Structure	3.50
ii	Plant & Machinery	10.25
iii	Other Fixed Assets	2.60
iv	Working Capital Margin	1.02
v	Contingency	2.00
vi	Total Project Cost	19.37

TABLE 9 MEANS OF FINANCES

Sr. No.	Particulars	Amount In Lakhs
i	Subsidy	10.00
ii	Promoters Contribution	3.87
iii	Term Loan	5.49
	Total Means of Finance (1 to 3)	19.37

TABLE 10 EXPENDITURE, REVENUE AND PROFITABILITY

PARTICULARS	YEAR					
	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr
Capacity	0	0.6	0.7	0.8	0.9	1
A. INCOME						
Sales of Desiccated coconut	-	39.77	46.86	54.09	61.46	68.97
Total	**-**	**39.77**	**46.86**	**54.09**	**61.46**	**68.97**
B.EXPENSES						
Raw Material	-	22.50	26.78	30.90	35.10	39.38
Consumables	-	-	-	-	-	-
Packing cost	-	0.84	1.00	1.16	1.32	1.48
Transportation cost	-	0.75	0.89	1.03	1.17	1.31

Direct employee cost	-	5.40	6.43	7.42	8.42	9.45
Depreciation	-	2.35	2.04	1.77	1.53	1.33
Office Rent						
Plant Electricity Cost	-	0.54	0.64	0.74	0.84	0.95
Miscellaneous	-	0.45	0.54	0.62	0.70	0.79
Office Expenses	-	0.66	0.73	0.80	0.88	0.97
Telephonic Expenses	-	0.06	0.60	0.66	0.73	0.80
Indirect Employee	-	0.50	0.50	0.50	0.50	0.50
Repair & Maintenance	-	0.50	1.50	1.65	1.82	2.00
Audit, Accounts & Compliance	-	0.44	0.44	0.48	0.53	0.59
Insurance		0.5	1.5	1.5	1.5	1.5
Total Cost	**-**	**35.49**	**43.58**	**49.22**	**55.04**	**61.03**
Add :- Opening Stock		-	3.46	4.09	4.72	5.36
Less :- Closing Stock	-	3.46	4.09	4.72	5.36	6.02
Cost of Sales	**-**	**32.03**	**42.95**	**48.59**	**54.40**	**60.37**
GROSS PROFIT	**-**	**7.74**	**3.91**	**5.50**	**7.06**	**8.60**
	-	19.45%	8.35%	10.16%	11.49%	12.47%
FINANCE EXPENSES						
Interest on Term Loan	0.58	0.53	0.45	0.37	0.28	0.20
Interest On CC		0.08	0.08	0.08	0.08	0.08
Total Interest	**0.58**	**0.61**	**0.53**	**0.44**	**0.36**	**0.28**

PROFIT BEFORE TAX	**-0.58**	**7.13**	**3.39**	**5.05**	**6.70**	**8.32**
INCOME TAX (30%)	-0.17	2.14	1.02	1.52	2.01	2.50
PROFIT AFTER TAX	**-0.40**	**4.99**	**2.37**	**3.54**	**4.69**	**5.82**

TABLE 11 REPAYMENT SCHEDULE

Year	Outstanding loan at start of yr.	Disburse- ment	Total outstanding Loan	Surplus for repayment	Interest payment	Repayment of principal	Total outgo	o/s Loan at the end of the yr.	Balance left
1	-0.00	5.49	5.49	0.61	0.58	0	0.58	5.49	0.04
2	5.49		5.49	0.59	0.53	0.78	1.32	4.71	-0.73
3	4.71		4.71	0.76	0.45	0.78	1.23	3.92	-0.47
4	3.92		3.92	1.65	0.37	0.78	1.15	3.14	0.50
5	3.14		3.14	2.65	0.28	0.78	1.07	2.35	1.58
6	2.35		2.35	3.48	0.20	0.78	0.99	1.57	2.50
7	1.57		1.57	3.71	0.12	0.78	0.90	0.78	2.80
8	0.78		0.78	4.69	0.04	0.78	0.82	-	3.87

TABLE 12 ASSETS DEPRECIATION

PARTICULARS	YEAR							
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**	**6th yr**	**7th yr**	**8th yr**
Land & Building Structure								
Opening Bal.		3.50	3.15	2.84	2.55	2.30	2.07	1.86
Additions	3.50							
Less :- Depreciation @ 10%		0.35	0.32	0.28	0.26	0.23	0.21	0.19
Closing Bal.	3.50	3.15	2.84	2.55	2.30	2.07	1.86	1.67
PARTICULARS	YEAR							
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**	**6th yr**	**7th yr**	**8th yr**
Plant & Machinery								
Opening Bal.		10.25	8.71	7.41	6.29	5.35	4.55	3.87
Additions	10.25							
Less :- Depreciation @ 15%		1.54	1.31	1.11	0.94	0.80	0.68	0.58
Closing Bal.	10.25	8.71	7.41	6.29	5.35	4.55	3.87	3.29
PARTICULARS	YEAR							
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**	**6th yr**	**7th yr**	**8th yr**
Other Required Material & Accessories								
Opening Bal.		4.60	4.14	3.73	3.35	3.02	2.72	2.44
Additions	4.60							
Less :- Depreciation @ 10%		0.46	0.41	0.37	0.34	0.30	0.27	0.14

Closing Bal.	4.60	4.14	3.73	3.35	3.02	2.72	2.44	2.30
TOTAL DEPRECIATION	-							
PARTICULARS	YEAR							
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**	**6th yr**	**7th yr**	**8th yr**
Land & Building Structure	-	0.35	0.32	0.28	0.26	0.23	0.21	0.19
Plant & Machinery	-	1.54	1.31	1.11	0.94	0.80	0.68	0.58
-	-							
Other Required Material & Accessories	-	0.46	0.41	0.37	0.34	0.30	0.27	0.14
TOTAL DEPRECIATION	-	2.35	2.04	1.77	1.53	1.33	1.16	0.91

TABLE 13 FINANCIAL ASSESSMENT OF PROJECT

	YEAR							
	1st yr	**2nd yr**	**3rd yr**	**4th yr**	**5th yr**	**6th yr**	**7th yr**	**8th yr**
Cost	18.35	35.49	43.58	49.22	55.04	61.03	61.79	62.01
Benefit	-	39.77	46.86	54.09	61.46	68.97	69.66	70.36
Discounting Rate	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47
P.V Cost	16.68	29.33	32.74	33.62	34.18	34.45	31.71	28.93
P.V Benefit	-	32.87	35.21	36.94	38.16	38.93	35.75	32.82

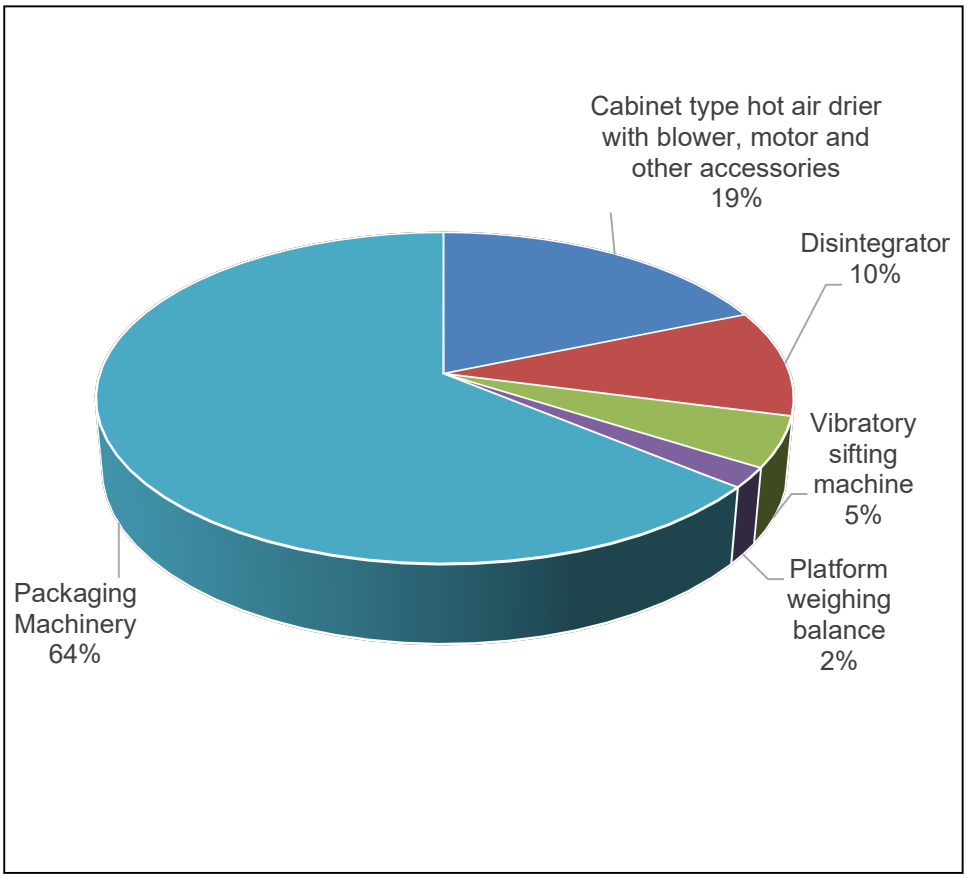
Total P.V Cost	241.64
Total P.V Benefit	250.68
Benefit Cost Ratio	**1.04**

TABLE 14 BREAK EVEN ANALYSIS

PARTICULARS	Year						
	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr	7th yr
Annual Production in Kg	-	56,250	65,625	75,000	84,375	93,750	93,750
Revenue	-	39.77	46.86	54.09	61.46	68.97	69.66
Selling Cost Per Kg	-	70.70	71.41	72.12	72.84	73.57	74.31
Office & General Expenses	-	1.16	1.77	1.94	2.14	2.35	2.59
Depreciation	-	2.35	2.04	1.77	1.53	1.33	1.16
Total Fixed Cost	-	3.51	3.80	3.71	3.67	3.68	3.75
Total Fixed Cost Per Kg	-	6.24	5.79	4.95	4.35	3.93	4.00
Total Variable Cost	-	29.49	35.10	40.50	46.01	51.61	51.61
Variable Cost Per Kg	-	52.43	53.48	54.01	54.53	55.06	55.06
Contribution	-	10.28	11.76	13.59	15.45	17.36	18.05
Contribution per Unit	-	18.27	17.93	18.11	18.31	18.52	19.25
Contribution in %	-	26%	25%	25%	25%	25%	26%
Break Even Point kg	-	0	0	0	0	0	0
Break Even Point Rs	-	2.77	3.05	2.96	2.92	2.94	3.01
Break Even In %	-	34.14	32.32	27.30	23.76	21.23	20.76
Margin Of Safty	-	37.00	43.81	51.13	58.54	66.04	66.66

FIGURE 2

PIA CHART FOR BETTER UNDERSTANDING OF EXPENCES OF EACH HEAD



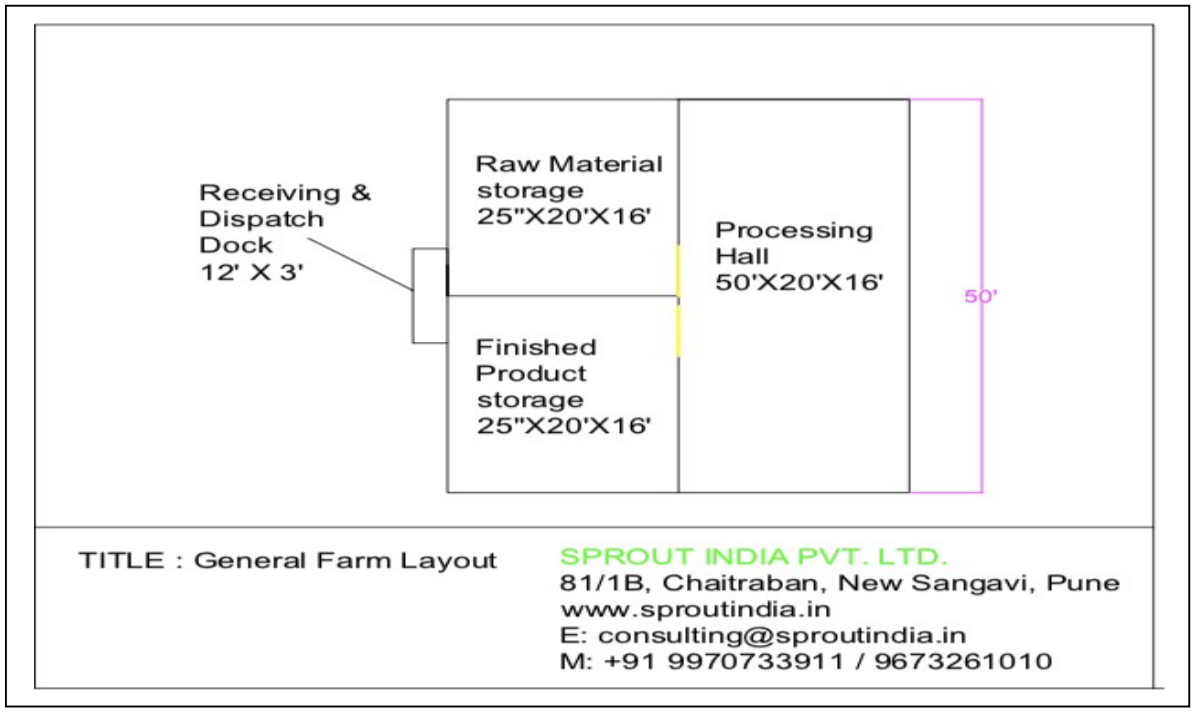
5.1 MACHINERY SAPPLIERS

There are many machinery suppliers available within India for processing machineries and equipment. Some of the suppliers are:

1.
2.
3. .

FIGURE 3

PLANT LAYOUT



PROJECT REPORT

FOR

ESTABLISHMENT

OF

VIRGIN COCONUT OIL

PROCESSING UNITS

Under the Agriculture Infrastructure Fund Scheme
(Ministry of----------)

AT ----------

SUBMITTED BY

Name &Address

COCONUT PROCESSING MACHINE

PROJECT AT A GLANCE

1	Name Of the Bank	----------SERVICE CO-OPERATIVE BANKLTD.No-------,		
2	Location	VADASERIKARA, PATHANAMTHITTA		
3	Organization	Co-Operative Sector		
4	Activity	MANUFACTURING OF VIRGIN COCONUT OIL		
5	**Project Cost**			
i	Land & Building	OWN	₹	25,12,101.00
ii	Plant & Machinery		₹	57,00,000.00
iii	Working capital		₹	39,00,000.00
	TOTAL		₹	1,21,12,101.00
6	**Means of Finance**			
i	Bank's Contribution		₹	27,71,210.10
ii	Term loan from NABARD for Building	90%	₹	22,60,890.90
iii	Term loan from NABARFD for Plant & Machinery	90%	₹	51,30,000.00
iv	Working Capital Loan	50%	₹	19,50,000.00
	TOTAL		₹	1,21,12,101.00
7	Power			
8	Employment	12	Nos	
9	Marketing Area			
10	Installed Capacity	528.31	Lakhs	
11	Average Profit per year	Rs.		23,24,311.84
12	Number of shifts	One		
13	Expected Capacity Utilisation	60.00%		
14	DSCR	2.47		
15	Return on investment	19.19%	First year	
16	Break Even Point	41%		

M/s ---------- Co operative Bank Ltd.N

M/s.---------- Service Co operative Bank Ltd.No.-------- was formed and registered under the ---------- Co-operative Societies' on ---------- and started functioning on ----------. The society had its humble beginning with a share capital base of Rs. 125/- contributed by 30 members. The noble object behind the formation of the Society was to improve the economic and social status of the members of the society and to formulate and implement schemes to encourage thrift, self-help and co-operation among members. Needless to describe that the share capital base of the bank as on 31-03-2021 has reached 104.09 lakhs contributed by 8662 members and the government contribution is to the tune of Rs 23.53 lakhs. It is worth mentioning that M/S ---------- Service Co-Operative bank is one of the best performing credit Co-Operative institution in --------- Taluk . The Bank could extend various type of assistance to the members depending on their requirement. The major business activities of the bank are mobilization of deposits and disbursement of loans and advances. In order to provide the public at large, the society has established a Neethi Medical Store, Neethi store, Manure depot and an Agro shop . The Bank is running 5 Nos of G.D.C.S for the benefit the members. The Bank is having a branch at ----------

0.2 Area of Operation

The area of operation of the bank is confined to wards 4 to 8 of ---------- Grama Panchayat in --------- Taluk ----------District. However mortgage loans can be issued to members on the mortgage of landed property in the Taluks of----------,---------- and ----------

0.3 Objects of the society

The avowed object of the bank is to provide financial assistance, facilities and other services to small and marginal farmers, village small and cottage industries, small business entrepreneurs so as improve their production and thereby to assure them a reasonable income. Apart from the main object mentioned above, following are the other important objectives mentioned in clause 3 of the bye-laws of the bank.

(1) To advance short term, medium term and long term loans to members depending on their requirement

(2) To encourage thrift, self help and co operation among the members and to formulate schemes to promote them

(3) To Procure and supply to the members seeds, manure, fertilizers, pesticides agricultural implements, house hold articles etc.

(4) To arrange for the sale of agricultural produce of the members through marketing societies.

(5) To prepare and implement agricultural production plan for the members.

(6) To own or rent go downs for the storage of the agricultural produce of the members.

(7) To assist the members to procure and produce new verity of seeds.

(8) To assist the members to establish bio-manure, composite manure plant either individually or jointly in the area of operation of the society,

(9) To arrange for the purchase of modern agricultural implements and such other equipments as are required by the members and to let them on rental basis.

(10) To arrange for the distribution of high breed domestic animals such as oxen, goats and cock for promotion of domestic animals

(11) To act as agents for the supply of manure, fertilizers, pesticides agricultural implements etc.

(12) To arrange for the purchase of movable and immovable assets required by the bank.

(13) Under special circumstances under take the work of irrigation and land development for the benefit of the members with permission of the Government.

(14) To undertake contract works of Panchayats and others.

(15) To arrange necessary funds for the attainment of the above objects either by way of deposits or by loan or otherwise from members and well wishers

(16) To undertake all other activities calculated to further the objects mentioned (1) to (15) above.

(17) To run fair price shops

(18) To run consumer store for the supply of domestic items of daily use

(19) To run chitties with the prior sanction of the Joint Registrar of Co operative societies.

(20) To undertake various projects of government /quasi government organizations with the sanction of the Registrar

(21) To formulate various schemes through center/state government agencies for the benefit to the members.

(22) To open and operate branches in the area of operation of the bank.

(23) To establish own medical store or act as franchise for the distribution of medicines'

(24) To establish small processing units

25) To establish tourist information centers at tourist destinations/ pilgrim center either own or jointly with state Government

(26) To establish Neethi clinical diagnostic centers and other health care centers for the benefit of the members.

(27)To undertake high tech banking facilities such as ATM,NEFT RTGS etc in association with Nationalized banks/District Co operative bank.

(28)To run library for the benefit of members.

0.4 Membership and Share Capital

The bank had its humble beginning with a share capital base of Rs. 125/-contributed by the 30 farmer members. In order to fulfill the desired objective of the founders, the bank had developed its activities so as to create a respectable position in the minds of its members. Needless to describe that the share capital of the bank as on 31-3-2021 stood at 104.09lakhs contributed by 8662 members. The Government participation in the share capital is to the tune of 23.54 lakhs. Details are furnished in Annexure-A

0.5 Management

The management of the bank is vested with a Board of Directors consisting of 11 members. The president and other members of the Board heal from near by places in the area of operation of the bank Their dynamic leadership is of immense help for the rapid development of the bank. The Board Directors are earnest to urge to diversify their business activities so as to achieve fruitful results. The present Board of Directors under the chairman ship of---------- took charge on 1 and their term of office is for five years. Details of the present Board of Directors are furnished in Annexure-B

0.6 Establishment

At present 10 employees are working in the society and their dedicated service has helped the bank to reach the present position. Details of staff are furnished in Annexure-C

0.7 Present Scenario

As has been stated earlier, ---------- Service Co operative Bank Ltd.No is one of the best performing credit institution in --------Taluk of---------- District.. Apart from fulfilling the financial requirements of the members, the bank is committed inmeeting the socio-economic well being of the members of the society. As per the tentative financial statements of the bank for the year 2020-2021 the bank is having a deposit of Rs-3293.43- lakhs and the loan outstanding is Rs.2562.39 lakhs. The profit earned by the bank during the year 2020-2021 is Rs.2.13 lakhs. The working capital of thesociety as on 31-03-2021 is Rs.3480.79 lakhs. The bank is having a branch at ----------. In the non-banking sector the bank is having a Neethi medical store for the distribution of all medicines at a very fair and reasonable price. Yet another venture in the non-banking sector is the establishment of a Neethi store from where people can get all domestic items for their daily use. During last year the bank has established an Agro shop for the sale of agricultural equipment and implements required by the farmers. The business achievements made by the society during the last five years are furnished below:-

Achievements made by the society during the last five years

(Amount in lakhs)

Sl.No	Particulars	2016-17	2017-18.	2018-19	2019-20	2020-2021
1	Members	8229	8264	8260	8465	8662
2	Share Capital	70.14	76.12	91.36	101.65	104.09
3	Deposits	2817.32	3204.78	3162.95	3051.30	3293.43
4	Borrowings	41.15	3.09	191.50	237.96	122.23
5	Loans to members	2221.95	2452.05	2540.17	2544.65	2562.39
5	G.D.C.S Sala	7.50	8.00	8.50	3.00	2.50
6	Neethi medical sales	95.42	95.87	109.24	114.25	141.72
7	Neethi store Sales	14.23	9.08	5.18	11.08	19.53
	Manure Sales	32.20	33.32	17.46	36.21	54.72
7	Trade profit	7.82	8.52	9.25	10.26	12.37
8	Working Capital	2937.31	3200.00	3205.00	3340.93	3480.73

0.8 The Proposal

Majority of the members of the bank are small and marginal farmers. The main source of livelihood of the people in the area of operation of the bank is agriculture. Apart from paddy cultivation cash crops like rubber, pepper, coconut and other vegetables are also largely grown in the area of operation of the bank.. The bank intends to procure and process the coconut from the famers. By processing the coconut the bank intends to produce cold pressed virgin coconut oil which is having a high demand in the market. The other agricultural crops that are largely grown in the area are Banana, Tapioca, Elephant yam, Ginger, Yan taro, Taro root etc. The main problem faced by the farmers is that they are not getting fair and reasonable price for their agricultural produce. By implementing the project the bank anticipates to procure the vegetables from the members and market the same through a retail outlet to be opened by the bank. This will ensure a better priceto the farmers for their agricultural produce.

0.9 Land and Building

The Bank is having seven cents of land at ---------- where the branch of the bank is functioning. Since the building is pretty old, the management of the bank intends to demolish the building and construct a double storied building having a plinth area of 3656 sq.ft. After the construction of the double storied building the bank proposes to house the branch office to the 1st floor of the building. In the ground floor separate compartments will be set apart for the proposed virgin coconut processing unit and for the honey processing unit. The bank also intends to run a retail out let for the sale of vegetables procured from the farmers directly. For this the bank intends to occupy a rented building at ----------

1.0 Civil Construction Works

The bank intends to construct a double storied building. The ground floor will be having separate compartments to house the honey Processing unit and the vegetable dryer unit and the coconut oil mill The first floor will be utilized to house the branch office of the bank and the proposed Agro training center It is estimated that an amount of Rs 25.12 lakhs is required for civil construction works including plumbing, electrification and painting. Details are furnished in Annexure-D.

1.1 Furniture and Equipment

For the proposed retail outlet the bank may require certain furniture . It is estimated that Rs 1.50 lakh is required for the same. Details are furnished in Annexure E

1.2 Plant and Machinery

As has been stated in the aforesaid paras, by the implementation of the proposed scheme, the bank proposes to establish a cold pressed virgin coconut oil production unit. For the successful implementation of the project the bank may require certain machineries and equipment such as oil expeller, cold press oil expeller, dryer for coconut oil processing unit. It is estimated that Rs 57 lakh is required. Details are furnished in Page no. 16 & 17

1.3 Packing Material

The bank intends to market the proceed coconut oil and honey in attractive Pet bottles.

1.4 Working Capital Requirement

Under the proposed scheme the bank intends to undertake activity of Virgin Coconut Oil mill. For the cold press virgin oil processing unit the bank may collect coconut from farmers dry them and process them using cold press to produce virgin coconut oil. As mentioned earlier in order to safe guard and protect the interest of the farmers the bank will procure the vegetables directly from the farmers and sell the same to the customers through the proposed retailed outlet to be opened by the bank. More over people can purchase virgin coconut oil from the proposed retail outlet. The working Capital requirement is estimated at Rs.39 lakhs. Computation of working capital requirement is furnished in Pages No.18 & 19

1.5 Preliminary and Pre Operative Expenses.

For implementing the project, the bank may have to incur certain preliminary and pre operative expenses such as security deposit to KSEB for power allotment and other statutory levies. It is estimated that Rs 7 lakhs is required for the same. Details are provided in Annexure-F

1.6 Implementation of the Project

By implementing the project the bank intends to procure raw coconut from members and dry the coconut by using the dryer and the process the dried coconut using cold press machine and produce the virgin coconut oil and hygienically packed for sales.

1.7 Marketing strategy

By implementation of the project, the bank intends to market the virgin coconut oil through the retail out let of the bank. More over the bank also anticipates to sell organic fresh vegetables procured directly from farmers though this retail outlet product of coconut. The bank also plans to distribute the virgin coconut oil through the various consumer stores in the area and nearby places of the bank.

1.8 Employment Potential

By implementation of the project the bank anticipates to provide gainful employment to 12 persons directly and more people indirectly. By implementing the project the bank wishes to bring more youth to the agricultural sector and thereby to improve the agricultural production in the area. Details of man power requirement are furnished in Page No.18

1.9 Economic Viability

The major crops that are being cultivated in the area of operation of the bank are Paddy and coconut and various types of vegetables. Yet another activity in which people is engaged is collection of honey . By implementing the project the bank expects to attract more people to the agricultural sector especially the youth. This will in turn bring more area of land for agricultural cultivation. Since majority of the population in the area of operation of the bank depends on agriculture for their lively hood, any development in the agricultural sector will reflect in the improvement of the socio-economic condition of the people

2.0 Financial Requirement

For the successful implementation of the scheme the bank may require financial assistance to the tune of Rs,121 lakhs details of which are furnished in Annexure G

2.1 Source of Finance

NABARD has introduced a novel scheme of providing financial assistance to to co operatives to convert them into Multi Service Center (MSC) under Special Refinance Facility (SRF). The bank intends to avail the financial assistance under this scheme to implement the proposed project. The pattern of assistance under the scheme is as follows:-

90% of the project cost as loan under AIF

scheme

10% of the project cost by the bank.

The Net Disposable Resources of the bank is positive and the bank intends to mobilize its contribution to the proposed project from out of its NDR, Details are furnished in Annexure- H

2.2 Profitability Statement

By implementing the proposed project, the bank anticipates to achieve a sales turn over of Rs 317 lakhs during the first year of implementation of the scheme followed by an increase in the volume of sales by 25% in the succeeding years. Detailed Profitability statement for the first seven years is furnished in Page No. 24

2.3 Repayment Schedule of Loan

As per the norms for availing the financial assistance from NABARD under the scheme the bank has to repay the loan amount over a period of seven year with interest rate@ 4%. Detailed repayment schedule of loan is furnished in page no.22

2.4 Financial Statements

Conclusion

The project has enough scope in all over ---------- District and nearby areas. It can be seen from the details furnished above, that this project is economically viable and financially sound and employment generating one**.**

The economics of the project is detailed as follows.

ECONOMICS OF THE PROJECT

1 LAND & BUILDING — Own — ₹ 25,12,101.00

2 PLANT & MACHINERY

	PRICE	GST	TOTAL
AUTOMATIC HEAT PUMP DRYER OIL EXPELLER 6 BOLT TRIPLE GEAR BED	1300000	234000 ₹	15,34,000.00
i TYP SPF MAKE	230000	41400 ₹	2,71,400.00
ii FILTER PRESS SPF MAKE	115000	20700 ₹	1,35,700.00
iii COPRA CUTTER WITH PLATFORM	32000	5760 ₹	37,760.00
iv FOUNDATION BOLTS, BELT, PULLEYS	16000	2880 ₹	18,880.00
v COPRA DRYER- IMPERIAL MODEL	145000	26100 ₹	1,71,100.00
vi 15 HP ELECTRIC MOTOR-960RPM CROMPTON FOR EXPELLER	56400	10152 ₹	66,552.00
vii 3 HP ELECTRIC MOTOR CROMPTON FOR CUTTER	14250	2565 ₹	16,815.00
viii 2 HP ELECTRIC MOTOR CROMPTON FOR FILTER	11400	2052 ₹	13,452.00
ix 1 HP PUMP SET -CROMPTON FOR OIL TANK,	9570	1723 ₹	11,293.00
x FILTER TRAY, PUMP TRAY	7040	1267 ₹	8,307.00
xi SS PREMIUM OIL EXTRACTION MACHINE		₹	3,12,700.00
xii HONEY FILLING MACHINE		₹	2,65,500.00
Xiii TRANSPORTATION, INSTALLTION etc		₹	53,100.00
		₹	47,10,159.00

	Balance B/d	₹	47,10,159.00
xvi	SEMI AUTOMATIC TWO HEAD VOLUMETRIC FILLING MACHINE	₹	1,41,600.00
xvii	FURNITURE & EQUIPMENT	₹	1,50,000.00
xviii	ELECTRICAL & PREOPERATIVE EXPENSES	₹	7,00,000.00
	TOTAL	₹	57,01,759.00
	Say Rs.	₹	57,00,000.00

3 Raw Material Required for one month

A	For virgin coconut oil	Days			Rate		
i	Coconut	25	1000	Kg	₹ 40.00	₹	10,00,000.00
ii	Pet bottle	25	1200	Nos	₹ 3.50	₹	1,05,000.00
	Packing materials					रु	20,000.00
	TOTAL					रु	20,68,750.00

4	Staff & Labour per month	Nos		
i	Supervisors	2	₹	40,000.00
ii	Factory Workers	8	₹	80,000.00
iii	Depo Manager	1	₹	15,000.00
iv	Sales Assistant	1	₹	10,000.00
	Total	12	₹	1,45,000.00
	Add 20% benefit		₹	29,000.00
	Grand TOTAL		₹	1,74,000.00

5	Other Expense per month				
i	Electricity Charges			₹	50,000.00
ii	Insurance			₹	2,500.00
iii	Communication			₹	2,500.00
iv	Repair & Maintenance			₹	17,500.00
v	Other Unforeseen expenses			₹	20,000.00
	TOTAL			₹	92,500.00
6	Working Capital				
i	Stock of Raw Materials	25	days	₹	20,68,750.00
ii	Raw Materials in Process	2	days	₹	1,65,500.00
iii	Stock of Finished Goods	8	days	₹	6,62,000.00
iv	Credit Sale	9	days	₹	7,44,750.00
v	One Month working expenses			₹	2,66,500.00
	TOTAL			₹	39,07,500.00
	Say Rs.			₹	39,00,000.00

7 TOTAL CAPITAL INVESTMENTS

i	Building	Own	₹	25,12,101.00
ii	Plant & Machinery		₹	57,00,000.00
iii	Working Capital		₹	39,00,000.00
	TOTAL		₹	1,21,12,101.00

8 SOURCE OF FINANCE

i	Bank Contribution		₹	27,71,210.10
ii	Term loan from NABARD for Building	90%	₹	22,60,890.90
iii	Term loan from NABARFD for Plant & Machinery	90%	₹	51,30,000.00
iv	Working Capital Loan	50%	₹	19,50,000.00
	TOTAL		₹	1,21,12,101.00

9 Cost of Production per month

i	Raw material	₹	20,68,750.00
ii	Staff & Labour	₹	1,74,000.00
iii	Other Expenses	₹	92,500.00
iv	Interest on Term Loan 4 %	₹	24,636.30
v	Interest on Working Capital Loan 4 %	₹	6,500.00
vi	Depreciation (Machinery) 15%	₹	71,250.00
vii	Depreciation (Building) 2.5%	₹	5,233.54
viii	Sales promotion expenses	₹	5,000.00
	TOTAL	₹	24,47,869.85

10	Sales Revenue Per month	Kg		Rs.		
i	Virgin Cocout oil	7500	₹	190.00	₹	14,25,000.00
	TOTAL				₹	26,75,000.00
	Less wastage				₹	33,437.500
	TOTAL INCOME				₹	26,41,562.50
11	Profit Per month				₹	1,93,692.65
12	Profit per year				₹	23,24,311.84
13	Net Profit				₹	23,24,311.84
14	Return on Investment					19.19%
15	Return on Sales					7.33%
16	Debt Service Coverage Ratio (for a repayment period of 7 years)					2.47

REPAYMENT CHART OF TERM LOAN

Lakhs

Year	1	2	3	4	5	6	7
Opening balance	73.909	63.350	52.792	42.234	31.675	21.117	10.558
Repayment	10.558	10.558	10.558	10.558	10.558	10.558	10.558
Closing Balance	63.350	52.792	42.234	31.675	21.117	10.558	0.000
Interest Due 4%	2.956	2.534	2.112	1.689	1.267	0.845	0.422
Total Term Loan Dues	13.515	13.515	13.515	13.515	13.515	13.515	10.981

DEPRECIATION OF PLANT & MACHINERY

Year	1	2	3	4	5	6	7
Opening balance	57.00	48.45	41.18	35.01	29.75	25.29	21.50
Depreciation @15%	8.55	7.27	6.18	5.25	4.46	3.79	3.22
Closing Balance	48.45	41.18	35.01	29.75	25.29	21.50	18.27

DEPRECIATION OF BUILDING

Year	1	2	3	4	5	6	7
Opening balance	25.12	24.49	23.88	23.28	22.70	22.13	21.58
Depreciation @2.50 %	0.63	0.61	0.60	0.58	0.57	0.55	0.54
Closing Balance	24.49	23.88	23.28	22.70	22.13	21.58	21.04

PROJECTED PROFITABILITY STATEMENT

Sales Revenue per year — Lakhs

Year	1	2	3	4	5	6	7
Installed Capacity	528.31	528.31	528.31	528.31	528.31	528.31	528.31
Capacity Utilisation	0.60	0.65	0.70	0.75	0.80	0.85	0.90
Production	316.99	343.40	369.82	396.23	422.65	449.07	475.48
Total Sales	316.99	343.40	369.82	396.23	422.65	449.07	475.48

Cost of Production

Year	1	2	3	4	5	6	7
Raw materials	248.25	270.10	291.16	313.29	334.13	355.18	376.49
Staff & Labour	20.88	23.75	26.13	27.43	30.72	32.57	34.20
Other Expences	11.10	11.66	13.18	14.83	15.57	17.37	19.31
Interest on Term Loan	2.96	2.53	2.11	1.69	1.27	0.84	0.42
Interest on Working Capital Loan	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Depreciation of Plant & Machinery and building	9.18	7.88	6.77	5.83	5.03	4.35	3.76
Sales Promotion Expenses	0.60	0.66	0.73	0.80	0.88	0.97	1.06
Total Cost of production	293.74	317.36	340.86	364.65	388.37	412.05	436.02
Profit per year	23.24	26.05	28.96	31.58	34.28	37.02	39.46
Net profit	23.24	26.05	28.96	31.58	34.28	37.02	39.46
Return on investments	19.19%	21.51%	23.91%	26.08%	28.30%	30.56%	32.58%
Return on sales	7.33%	7.59%	7.83%	7.97%	8.11%	8.24%	8.30%
DSCR	2.47	2.63	2.81	3.00	3.22	3.46	3.71

ANNEXURE - J

Break Even Analysis at a normal year of operation at 70% Capacity utilisation

A	Fixed & Semivariable Costs	
i	50 % of other Expenese	6.59
ii	Interest on Term Loan	2.11
iii	Depreciation	6.77
iv	Staff & Labour	26.13
	TOTAL	41.60
B	Variable Costs	
i	Raw Materials	291.16
ii	50 % of Other expenses	6.59
iii	Interest of Working Capital Loan	0.78
iv	Sales Promotion Expenses	0.73
	TOTAL	299.26
C	Contribution	70.56
D	Break Even Point	
i	In terms of Capacity Utilisation	41 %
ii	In terms of Production/ Sales	Rs.218.04

PROJECTED BALANCE SHEET

LIABILITIES

Lakhs

Year	Const. Period	1	2	3	4	5	6	7
Capital	27.712	77.925	105.949	136.074	165.899	197.581	230.742	264.233
Reserve & surplus	0.000	32.421	33.927	35.732	37.416	39.307	41.363	43.225
Term Loan from NABARD	73.909	63.350	52.792	42.234	31.675	21.117	10.558	0.000
Working Capital Loan	19.500	19.500	19.500	19.500	19.500	19.500	19.500	19.500
TOTAL	121.121	193.197	212.169	233.540	254.490	277.504	302.164	326.957

Assets

Lakhs

Year	Const period	1	2	3	4	5	6	7
Fixed assets	82.121	72.943	65.063	58.289	52.456	47.425	43.078	39.314
Stock in trade	0.000	62.063	67.524	72.791	78.323	83.531	88.794	94.122
Cash in hand/ Bank	39.000	58.191	79.581	102.460	123.711	146.548	170.292	193.522
TOTAL	121.121	193.197	212.169	233.540	254.490	277.504	302.164	326.957

Cash - Flow Statement

Lakhs

		Const. Period	I st Year	II nd year	IIIrd year	IV th year	V th year	VI th year	VII th year
	A-Source of Funds								
1	Net profit before taxes with interest added back	Rs. -	Rs. 26.20	Rs. 28.58	Rs. 31.07	Rs. 33.27	Rs. 35.54	Rs. 37.86	Rs. 39.88
2	Increase in share capital	Rs. 27.71	Rs. -	Rs. 1.10	Rs. 1.19	Rs. 1.29	Rs. 1.39	0.65	0.68
3	Increase in Term Loan	Rs. 73.91	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
4	Increase in Working Capital Loan	Rs. 19.50	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
5	Depreciation	Rs. -	Rs. 8.55	Rs. 7.27	Rs. 6.18	Rs. 5.25	Rs. 4.46	Rs. 3.79	Rs. 3.22
	TOTAL	Rs. 121.12	Rs. 34.75	Rs. 36.95	Rs. 38.44	Rs. 39.81	Rs. 41.40	Rs. 42.30	Rs. 43.79

	B - Deposition of Funds								
1	Increase in Capital Expenditure	Rs. 82.12	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
2	Increase in current Assets		Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
3	Decrease in Term Loan	Rs. -	Rs. 10.56	Rs. 10.56	Rs. 10.56	Rs. 10.56	Rs. 10.56	Rs. 10.56	Rs. 10.56
4	Decrease in Working Capital Loan	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
5	Taxation	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -	Rs. -
6	Drawings	Rs. -	Rs. 5.00	Rs. 5.00	Rs. 5.00	Rs. 8.00	Rs. 8.00	Rs. 8.00	Rs. 10.00
	TOTAL	Rs. 82.12	Rs. 15.56	Rs. 15.56	Rs. 15.56	Rs. 18.56	Rs. 18.56	Rs. 18.56	Rs. 20.56

Accumulation of Net Profit

	C- opening balance	Rs. -	Rs. 39.00	Rs. 58.19	Rs. 79.58	Rs. 102.46	Rs. 123.71	Rs. 146.55	Rs. 170.29
	D - net cash balance	Rs. 39.00	Rs. 19.19	Rs. 21.39	Rs. 22.88	Rs. 21.25	Rs. 22.84	Rs. 23.74	Rs. 23.23
	E- Closing Balance	Rs. 39.00	Rs. 58.19	Rs. 79.58	Rs. 102.46	Rs. 123.71	Rs. 146.55	Rs. 170.29	Rs. 193.52

CALCULATION OF DSCR

ANNEXURE- I

	IN FLOW	Ist Year	IInd year	IIIrd year	IVth year	Vth year	VIth year	VIIth year
1	Net profit	23.24	26.05	28.96	31.58	34.28	37.02	39.46
2	Depreciation of Plant & Machinery	9.18	7.88	6.77	5.83	5.03	4.35	3.76
3	Interest on Term Loan	2.96	2.53	2.11	1.69	1.27	0.84	0.42
	A	35.38	36.46	37.84	39.10	40.57	42.21	43.65

	OUT FLOW	Ist Year	IInd year	IIIrd year	IVth year	Vth year	VIth year	VIIth year
1	Repayment of Term Loan	10.56	10.56	10.56	10.56	10.56	10.56	10.56
2	Interest on Term Loan	2.96	2.53	2.11	1.69	1.27	0.84	0.42
3	Interest on Working capital	0.78	0.78	0.78	0.78	0.78	0.78	0.78
	B	14.29	13.87	13.45	13.03	12.61	12.18	11.76

DSCR (A/B)	2.47	2.63	2.81	3.00	3.22	3.46	3.71

AVERAGE DSCR	3.12

ANNEXURE A Rs. IN LAKHS

DETAILS OF MEMBERSHIP AND SHARE CAPITAL AS ON 31-03-2021

SL NO.	PARTICULARS	NO. OF MEMBERS	NO. OF SHARES	AMOUNT
1	INDIVIDUALS A CLASS	6915	160912	80.45
2	INDIVIDUALS B CLASS	1740	1000	0.10
3	GOVERNMENT	7	23540	23.54
	TOTAL	8662	185452	104.09

ANNEXURE - B

DETAILS OF BOARD OF DIRECTORS

SL NO.	NAME OF DIRECTORS	DESIGNATION
1		PRESIDENT
2		VICE PRESIDENT
3		DIRECTOR
4		DIRECTOR
5		DIRECTOR
6		DIRECTOR
7		DIRECTOR
8		DIRECTOR
9		DIRECTOR
10		DIRECTOR
11		DIRECTOR

ANNEXURE - C

DETAILS OF STAFF AS ON 31-03-2021

SL NO.	NAME	DESIGNATION
1		SECRETARY
2		INTERNAL AUDITOR
3		SR. CLERK
4		JR. CLERK
5		JR. CLERK
6		ATTENDER
7		PHARMACIST
8		P T SWEEPER
9		COLLECTION AGENT
10		COLLECTION AGENT

GSTIN : 32ACZPJ8003F1ZL

Quote No: APE/QTN/21/11/1067

Date: 11-11-2021

of

To

The Secretary,
Kerala-689 662

Sir,

SUB: Quotation for Semi-Automatic Two Head Volumetric Filling Machine (For Oil) with VFD

We thank you for your recent enquiry and have extreme pleasure in submitting our quotation for your consideration.

We are confident that our offer is in line with your requirement and looking forward to receive your valuable order.

We assure you our complete service and support all the time.

Regards

(Proprietor)

1. **Semi-Automatic Two Head Volumetric Filling Machine (For Oil) with VFD**

Mode of operation	Semi-Automatic
No of Filling Head provisions	2 Nos
No of removable Syringes available with Machine	**2Nos of 1000ml each**
Filling Accuracy	± 1ml
Material of Construction	SS Grade: **AISI 304** for SS contact parts SS Grade: AISI 304 for other SS parts Body: Rigid MS Structure frame fully cladded with SS304 sheet.
Machine Motor	0.5 HP
Speed controlled by	VFD
Power Supply	Single Phase, 220V, 50Hz AC Supply.
Basic Price Per Unit	***Rs. 1,20,000.00***
Reqd. Qty	***1 No***
Taxable Amount	***Rs. 1,20,000.00***
GST @ 18%	***Rs. 21,600.00***
Total Price Including GST	***Rs. 1,41,600.00***

ANNEXURE E

FURNITURE & EQUIPMENT

	PARTICULARS	Nos	Rate	Amount
1	OFFICE TABLE & CHAIR SET	2	25000	₹ 50,000.00
2	STEEL RACK	5	16000	₹ 80,000.00
3	WEIGHING BALANCE	2	10000	₹ 20,000.00
	TOTAL			₹ 1,50,000.00

ANNEXURE -F

PRILIMINARY AND PRE-OPERATIVE EXPENSES			
	Particulars		Amount
1	SECURITY DEPOSIT WITH KSEB	₹	5,50,000.00
2	PANAL BOARD , ELECTRICAL WORK	₹	1,00,000.00
3	OTHER PRILIMINARY EXPENSES	₹	50,000.00
	TOTAL	₹	7,00,000.00

Annexure-G

Details of Financial Requirement

Cost of Civil Construction	₹	25,12,101.00
Plant and machinery	₹	48,51,759.00
Cost of Furniture and Fittings	₹	1,50,000.00
Preliminary and Pre Operative Expenses	₹	7,00,000.00
TOTAL	₹	82,13,860.00
Working Capital Requirement	₹	39,00,000.00
TOTAL PROJECT COST	₹	1,21,13,860.00

ANNEXURE - H

SOURCE OF FINANCE

Bank Contribution		₹	**27,71,210.10**
Term loan for Building from NABARD	**90%**	₹	**22,60,890.90**
Term loan for Plant & Machinery from NABARD	**90%**	₹	**51,30,000.00**
Working Capital Loan from NABARD	**50%**	₹	**19,50,000.00**
TOTAL		₹	**1,21,12,101.00**

MODEL DPR FOR RIPENING CHAMBER
Banana and Mango

NAME----------
ADDRESS----------

Contact Details----------

PREPARED BY

CONTENTS

EXECUTIVE SUMMARY

Banana is one of the ideal and low cost food sources in the developing countries like India, where most of the people rely upon the banana as food. In terms of volumes they are the largest exported fruit, while they rank second after citrus fruit in terms of value. Its year round availability, affordability, varietal range, taste, nutritive and medicinal value makes it the favourite fruit among all classes of people. It has also good export potential. India has emerged as the world's largest producer of banana.

Banana is harvested in un-ripe stage from the farm and brought to the markets where it needs to be ripened before it is supplied to retailers. A well documented package of practices need to be followed for the banana viz. cutting of loom into hands, cleaning, grading, packaging and quality checking, followed by controlled ripening in ripening room before it arrives at the different retail outlets for sale to the consumers. The proposed unit will cater to the post-harvest management requirement for handling bananas and ripening safely using modern technology as prescribed by National Horticulture Board and FSSAI. The project proposes providing ripening facility under controlled conditions for fresh green bananas of appropriate physiological maturity brought from farm to the ripening chamber. Further, the customers prefer banana of spotless yellow color, apart from its size. Thus there is a critical need for proper ripening facility where the fruit can be

safely ripened in order to be sold at the most remunerative price from the producers' perspective.

The proposed ripening room project has been planned at Village & Post – Thrisur---------- (Kerala.), to cater to requirements of fruit ripening and ensuring complete Supply Chain Management of Banana in local markets. The project will provide necessary impetus in the form of physical infrastructure and technological input to the Banana growers, which in turn will develop good quality and safe banana that can be supplied within Thrissur and nearby towns. The proposed Banana ripening facility would have capacity of handling and ripening 120 MT of Banana and Mango at any point of time. It would be equipped with 4 nos ripening chambers to cater to the demand of the Thrissur and surrounding markets.

The Project is proposed to be funded through a mix of own funds and assets contributed by the promoters and bank loan covering term loan including back-ended capital subsidy under scheme of AIF (Agriculture Infrastructure Fund) for Post Harvest Management including Ripening Rooms. The promoter contribution in the project is proposed at Rs ---------- lacs (10% of project cost) bank loans of Rs ----------lacs (90% of project cost). The debt-equity ratio of the project has been proposed at ---------- The project

is expected to be commissioned in a short time of 5-6 months and startcommercial operations from April 2022.

The Project has excellent profitability - positive Net Present Value (NPV) of Rs. ------ lacs (on 10% discount rate) and post tax IRR of ----------%. The project hasa short Payback period of 7 years, Average BEP of ---------% and average debt service coverage ratio of ---------- which indicates the strength of the project.

INTRODUCTION

Bananas occupy a major role in the fruit production basket of India – 31% of India's fruit production (308.08 lac MT during 2017-18) and 13% of Total Area under Fruits (8.84 lac hectares during 2017-18). India is the world's leading producer of Banana contributing nearly 24% of the global production.

Bananas are the main fruit in international trade and the most popular one in the world. In terms of volume they are the first exported fruit, while they rank second after citrus fruit in terms of value. Banana is a very delicate commodity on economic, social, environmental and political grounds.

GRAPHICAL REPRESENTATION

Bananas are also a very important staple commodity for many developing countries, together with wheat, rice or corn, hence the relevance of bananas for food security. Some of the main bananas producing countries, such as India or Brazil, are hardly involved in international trade. In fact, only about one fifth of total banana production is internationally traded. Nevertheless, the share of banana trade in world banana production increased slightly in the last decades (from around 18% in the sixties and seventies to over 22% in the 1990s and 2000s). The international banana market shows a highly regional character.

"It is believed that **2.7 lakh tonnes** of raw banana are cultivated in Kerala annually, of which 50% is directed towards banana chips. The final yield will be one third of that 50%, which is nearly 40,000 tonnes. This entire production might not be consumed locally and a part might be going to other states and the Middle East,"

BANANA PRODUCTION IN INDIA

Area: in '000 Ha, Production: in ''000 MT

Sr. No.	STATES/UTs	2015-16		2016-17		2017-18	
		Area	Production	Area	Production	Area	Production
1	ANDHRA PRADESH	75.72	3570.62	88.17	4672.75	88.96	5003.07
2	ARUNACHAL PRADESH	5.42	31.64	2.45	17.47	2.21	14.08
3	ASSAM	51.1	882.71	49.27	854.85	53.08	913.27
4	BIHAR	34.8	1535.30	35.07	1527.85	31.07	1396.39
5	CHHATISGARH	25.76	587.42	26.12	609.21	26.57	745.78
6	GUJARAT	64.69	4185.52	66.31	4293.23	68.15	4472.32
7	HIMACHAL PRADESH	0.09	0.42	0.08	0.35	0.08	0.35
8	JHARKHAND	12.53	33.28	9.06	31.63	9.17	32.06
9	KARNATAKA	96.63	2370.95	99.46	2446.03	110.55	2328.90
10	KERALA	84.56	1292.41	84.98	1250.55	109.26	1119.16
11	MADHYA PRADESH	28.35	1758.05	26.97	1876.45	26.38	1834.03
12	MAHARASHTRA	69.55	3025.15	81.34	3888.9	80.88	4209.27
13	MANIPUR	6.95	93.95	8.19	109.82	6.93	93.48
14	MEGHALAYA	7.11	88.71	7.24	94.32	7.37	96.90

15	MIZORAM	10.91	141.03	11	141.04	11.21	143.84
16	NAGALAND	7.25	108.51	8.32	116.98	8.34	117.04
17	ODISHA	24.47	462.71	24.46	466.44	24.2	449.82
18	PUNJAB	0.11	6.43	0.09	5.27	0.09	5.27
19	RAJASTHAN	0.03	0.41	0.04	0.35	0.03	0.68
20	SIKKIM	1.15	3.56	1.21	3.87	1.28	3.71
21	TAMIL NADU	94.61	4331.65	94.98	3499.48	82.63	3205.04
22	TELANGANA	4.65	183.70	2.06	73	2.29	90.02
23	TRIPURA	14.62	153.62	10.8	115.28	10.29	109.40
24	UTTAR PRADESH	67	3061.21	69.1	3160.82	69.38	3172.33
25	WEST BENGAL	48.07	1172.34	48.07	1172.34	49.3	1200.00
	OTHERS	5.03	53.55	5.16	48.97	4.07	51.29
	TOTAL	841.19	29134.82	859.97	30477.22	883.77	30807.50

Source : Horticulture Statistics Division, Department of Agriculture, Coopn & Farmers Welfare.

In India, the leading banana producing states are – Tamil Nadu, Maharashtra, Gujarat, Andhra Pradesh, Uttar Pradesh etc. Traditionally, raw banana moves in large quantities from these major production belts to the consumption centers in India. Thrissur is one of the important consumption and local distribution center for Banana in Kerala Banana is an important fruit crop of many tropical and subtropical regions of India. It is cultivated in India in an area of 830.5 thousand ha and total production is around 29,779.91 thousand tons.

The State produces about 42.404 lacs MT of banana produce from an area of 52.89 lacs ha. and accounts for ----------of total horticultural production of the country. The major horticulture produce comprises vegetables (----------%) and fruits (----------%).. Production of banana is concentrated in belts of ----------

----------(Name of Area)

Recommended cultivars of banana in the state are ----------.

Banana's are deeply linked with the traditional culture of Kerala. Different banana varieties play a significant role in the daily life of the people in this South Indian state. In Malayalam language, banana plant is called by 'Vaazha' and the banana fruit is termed as 'Vaazha pazham'. Different varieties of bananas in terms of colour, size and taste are available in the market.

. The State produces about 48.569 lacs MT of mango from an area of about78.155 lacs ha. with the productivity of ---------- t/ha. which is the highest in the country. The commercial mango varieties grown in the State are----------, The major mango producing belts in the State are ----------

Raw Banana (Green) is ripened at the distribution centers prior to release to the market for consumption. Earlier, the accepted practice was to ripen banana using carbide, a carcinogenic substance which has been banned in India. The emerging trend has been to ripen banana placed in cold chambers using calibrated doses of Ethylene injected in the cold chambers through Ethylene Generators. Ethylene is a naturally occurring gas linked to ripening process of any fruit or vegetable. The use of controlled ripening technology allows forripening of fruit like banana as per the market requirements. The beneficial impact of controlled ripening using this technology is now largely being utilized for ripening of other fruits like Mango and Papaya, which has led to a huge demand for such facilities to be set up across the distribution and consumption centers.

In terms of volumes, Banana being a round the year crop, presents excellent opportunity for ripening business followed by Mango which in season have large volumes.

The Proposed project for ripening facility at Village & Post ---------, Dist. THrissur(Kerala) is to promote controlled ripening of fruits like Banana and Mango using latest ripening technology which is safe and natural. The project is aimed at capitalising on emerging market demand in Thrissur for “naturally ripened banana” which are free from harmful chemicals.

PROMOTERS PROFILE

The Project is being promoted by M/s---------- Agro Industries– a partnership firm set up by experienced and reputed farmers Mr. ----------, Mr. ----------,l. The promoters are involved in various farm based activities for more than a decade including farming, cane crushing, brick kilns and allied business successfully. A large group of farmers known and related to the promoters have been growing banana in and around Thrissur for several years now and underscored the requirement for ripening rooms for marketing of the banana in local markets.

The promoter has keen interest in developing integrated chain linking growing of fruits like banana with controlled ripening and direct marketing to nearby city markets. ***Herein, lies the genesis of this project where the promoter proposes to set up modern Ripening Chambers for Banana and Mango in Thrissur***

The project has been planned to be set up with financial assistance under applicable scheme of AIF – Scheme for PHM related components including Ripening Chambers.

PROJECT PLANNING

The Controlled Ripening Store project is planned for handling Banana, Mango etc. which can be ripened under controlled conditions. Traditionally, the requirement for ripened bananas in the markets of Thrissur and are met by supplies of Green Banana from production belts of ---------- routed by traders based in Thrissur markets and local merchants. Similarly, Mango supplies to these markets are sourced from ---------- and Mango are ripened using various methods at these consumption markets.

The winter months of December to February are lean months linked to lower production and consumption patterns whereas peaking of arrivals and consumption is observed during July to October linked to festival demands. Maharashtra is the major source for Banana (72% market share) followed by Gujarat (9% market share) and Andhra Pradesh (8% market share). However, with captive cultivation in different belts of UP, locally grown banana is available in good quantities.

Demand of Banana in India as a whole is tremendous as it is the cheapest fruit available to common man; therefore, there is tremendous scope for setting up of a ripening unit in this area.

The Ripening Facilities are rapidly picking up given the strict enforcement of ban on use of carcinogenic materials traditionally used for ripening of banana and other fruits. The major volume of business in ripening is likely to be generated from Banana followed by seasonal demands for ripening of Mango and other fruits like Papaya. The ripening of Banana and Mango will be by modern system replacing the traditional methods using carcinogenic materials. The Ripening facilities are being set up closer to the consumption markets to ensure better & safe quality of ripened fruits to the consumers. This also reduces the wastages involved in transportation of ripened fruit over long distance. Such ripening facilities are being planned as captive facilities by traders for meeting their in-house requirements and also for Long term lease of chambers for ripening to other market traders. The existing demand for ripening rooms is far in excess of the available ripening rooms leading to a trend whereby several upcoming Cold Rooms are also proposing to set up Ripening Rooms or existing Cold Rooms are being converted into Ripening Rooms. Small traders across the region are setting up small ripening facility for own use.

The entire project planning process has been based on the following methodology followed for the project:-

a) Planning of Ripening Activity for Fruits

b) Proposed Backward Linkages & Farm based activity for Project

c) Planning of Activity, Area & Equipment Requirements

d) Marketing & Forward Linkages for Project

e) Site Evaluation and Layout Planning

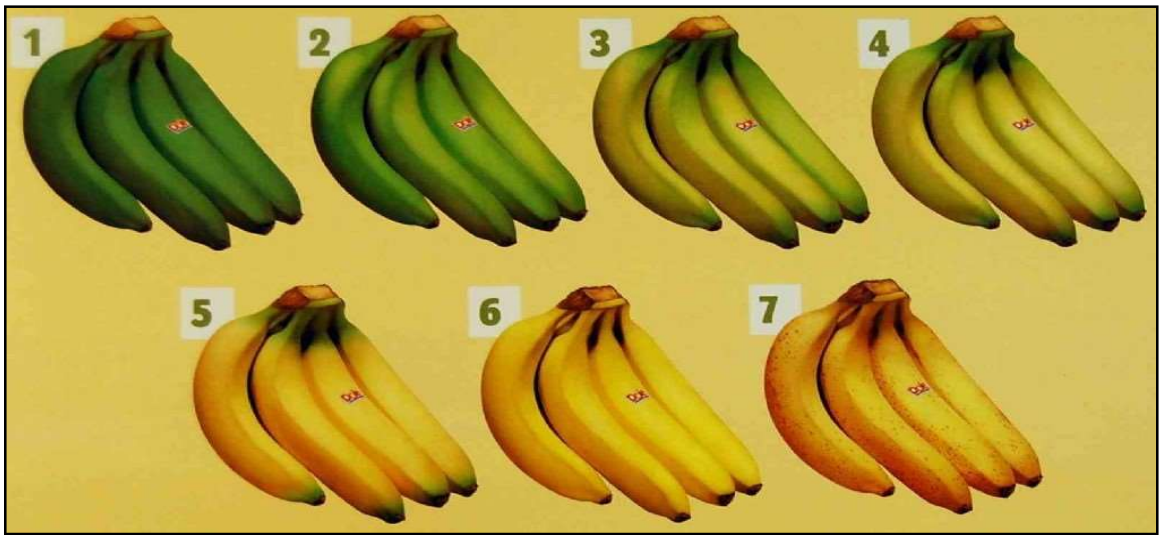
a) <u>Planning of Ripening Activity for Fruits</u>

For many years, ethylene has been used in the fruit business in Ripening rooms to speed up the process. Fruit naturally gives off ethylene gas and the more ethylene that fills a storage space, the quicker the ripening process. If not controlled, ethylene gas can be extremely damaging to fruit, vegetables and flowers, even though it exists only in low parts per millions. In India, traditionally, the ripening of fruit was handled in a dis-organized manner with lack of knowledge resulting in use of hazardous chemicals and uneven ripening in lots.

In Bananas, the ripening process can vary from 4 days (fast) to 8 days (slow) with the use of ripening chambers to cater to the needs of the market. Once the ripening process has been triggered (100-150 ppm dosage during first 24 hours), the most efficient way to stop or slow this process is to remove the ethylene from the storage area. This ensures that neither the rate of ripening nor intensity of respiration of the fruit is significantly changed. (Refer below Table for ripening schedule for Bananas & colour chart showing stages of ripening)

BANANA RIPENING SCHEDULE

Day	Fast °C	Normal °C	Slow °C	Ethylene added
1	18	18	17	Yes
2	18	16	15	No
3	17	15	14	No
4	14-16	15	14	No
5		14	14	No
6		14	14	No
7			14	No
8			14	No



Mangoes are only medium producers of ethylene but are highly sensitive to the presence of ethylene. Ripening is slowed down by the reduction of ethylene. Similarly, in other fruits and vegetables control of ethylene can provide better quality and enhanced storage conditions. (Refer Annexure 1 for table of ripening of various fruits). Temperature affects both the rate of ethylene production and the sensitivity of products to ethylene. Ethylene gas is naturally produced in most if not all plant tissue. This simple chemical compound is generally recognized as a fruit-ripening hormone. It can have beneficial or detrimental effects on fresh commodities, depending on management needs. For these effects to occur a minimum concentration must accumulate within the internal atmosphere of the product, and the temperature must be above a minimum. These minimums are not well defined. However since the production and action of ethylene are both temperature-dependent*, rapid cooling and good temperature management are vital if fruit ripening and other deterioration processes are to be delayed*. In terms of respiratory activity, fruits-including fruit-type vegetables have been grouped into two classifications, "*Climacteric*" and "N*on-climacteric*". Climacteric fruits (like Apple, Peach, Papaya, Tomato) normally ripen after harvesting, during which time sugars increase and volatile constituents develop. The non-climacteric fruits (like Citrus, Grapes, and Strawberries) do not ripen after harvest and exhibit no rise in respiratory activity. (Refer Ethylene Sensitivity Table below)

Fruit and Vegetables	Ethylene Production	Sensitivity to Ethylene	Product Response to Excess Ethylene	Recommended Humidity Level
Apples	Very high	High	Less crisp	90 – 98%
Apricots	High	High	Soft	90 – 98%
Asparagus	Very low	Medium	Tough	90 – 98%
Avocados	High	High	Dark spots	90 – 98%
Bananas	Medium	High	Dark spots	85 – 95%
Broccoli	Very low	High	Yellowing	90 – 98%
Brussell Sprouts	Very low	High	Yellowing	90 – 98%

Cucumber	Low	High	Yellowing	90 – 98%
Grapes	Very low	Low	Colour fade	90 – 98%
Kiwi Fruit	Low	High	Soft colour fade	90 – 98%
Lettuce	Very low	High	Spotty	95 – 98%
Melons	Medium	High	Soft	85 – 95%
Peaches	Medium	Medium	Soft	90 – 98%
Peas	Very low	Medium	Colour change	90 – 98%
Plums/Prunes	Medium	Medium	Soft/Colour change	90 – 98%
			Soft	
			Soft/Colour Change	
Rock Melon	High	Medium		85 – 95%
Tomatoes	Low	Medium		85 – 95%

b) <u>Proposed Backward Linkages & Farm based activity for Project</u>

Banana & Mango are the main fruit crops to be handled in the proposed project for ripening. As discussed earlier in the report, large number of farmers are growing mango & banana in the catchment area which will be available for ripening from May to October. Rest of the year, fruits will be procured from other production belts in ----------. The major sourcing points for Banana from these states are as follows: -

STATE	PRODUCTION BELTS	SEASON
Kerala		Round the year
Tamil Nadu		May to Oct.
		May to Oct.

The major sourcing points for Mango from the key belts of Uttar Pradesh are as follows:-

The promoter has planned to integrate the project with direct supplies from neighborhood farms and farmer groups who will be encouraged to adopt modern post harvest practices for minimising losses and improving quality. In banana, it is planned to de-hand the banana and transport the fruit in field crates to the proposed project facility so as to ensure minimum losses in transit. The entire activity of conversion of banana from loom to hands is proposed to be carried out in the banana fields by farmers. The conversion of banana looms into hands requires the following activities to be carried out:-

1. The Banana Loom is hung and de-handed.

2. De-Handing is the process of cutting hands (clusters of banana's on the bunches) off the bunch, cutting them into manageable sizes and de-flowered (process of picking off the dried flowers from the ends of banana's) before placing them into a wash trough.

3. Banana are washed twice for cleaning and treatment in tanks.

4. Clustering is the process of breaking a hand of bananas into clusters of three (3) to eight (8) bananas depending on the size requirement.

5. Banana clusters are placed into plastic crates of 20 kg capacity (containing around 18 kg of banana) using white safety sheet between each bunch.

6. Packing in cartons (of 13.5 kg capacity) or plastic crates (of 20kg capacity) requires banana clusters to be placed in a transparent polythene bag lining the carton and each bunch having white safety sheet between bunches.

Similarly, Mango fruit is proposed to be harvested, de-sapped, cleaned, graded and packed in cartons/ crates at field prior to be shipped to the ripening facility.

c) Planning of Activity, Area & Equipment Requirements

The proposed project has been planned to carry out various activities for benefit of growers and various other stakeholders. The existing business activity of the promoters involving farm related activities and trading creates an opportunity to tap requirement for ripening of Banana for supplies to the markets in Kerala . Hence, one of the key strengths of the project is assured supplies of Banana and other fruits for captive ripening. The proximity of the proposed project site to farms offers an opportunity to tap these market segments and also cut down the losses during transportation. The existing trend is to ripen truck loads of banana for a 3 - 4 day cycle. The shorter 3 day cycle is preferred for shipping out partly ripened to distant clients and during festival season. Based on evaluation of the market demand, the following activities are proposed to be carried out within the project:-

- Controlled ripening of fruits like Banana, Mango etc. for 3 – 4 day cycle for captive use as per the business requirements.

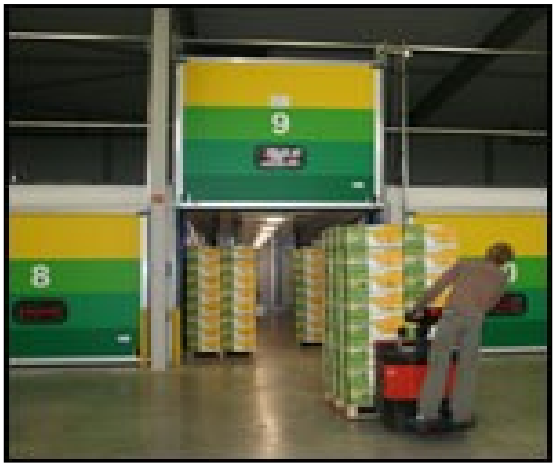
- Controlled ripening of fruits like Banana, Mango on lease / rental basis for customers/ traders.

Initially, it is proposed to start the project with 4 chambers (based on 4 day ripening cycle) each with a capacity to handle around 30 MT of banana in

crates per chamber – 4 chambers in a row with a loading area of 2.3m wide running across the ripening rooms to allow for smooth loading-unloading operations. Buffer space has been kept for expansion of ripening rooms in future.

The planning of area requirements for Ripening Store have been worked out on the basis of standard loads of 30 MT. The capacities for Ripening rooms have been based on requirements for placement of plastic crates (650mm (L) x 400mm (W) x 350mm (H) with average load of around 20 - 22 kg of banana. Each crate position can stack upto 8 nos. high stacking with total load of around 160 - 170 kg load. A total of 192 crates positions will be placed in each chamber. (refer crate stacking pattern on crates below)

For proposed ripening room, it is proposed to have 16 rows of crates each with 12 crates across the room with passage left between all crates and walls to allow for air circulation. Hence a total of 1,536 crates are planned with a total capacity of around 30 MT load per room. The dimension of the ripening room is planned at 13.5m x 7.0m x 3.5m (H). (Refer photo below for positioning of fruit in ripening room.)



The produce arrivals and despatches within the project facility will be largely on trucks for which a large open docking & parking area has been provided to allow for simultaneous docking of 2 - 3 trucks. A covered Packhouse has been provided for carrying cleaning-grading-packing operations of the banana. The fruit movements will be in crates mounted on pallets with hand pallet trucks.

INSULATION, REFRIGERATION, RIPENING EQUIPMENT

The proposed project has been planned to set up with the latest available technology which can be seamlessly expanded for capacity expansions at later stage and allow for economic operations. The various technical components for the facility have been planned as under:-

INSULATION

The insulation plays an important role in any cold / ripening room operations. It is proposed to install PUF sandwich panels of 80mm thickness for ceiling and walls, with following specifications which are suitable for the positive temperature ripening rooms as are proposed :-

PUF insulation core thickness	80mm
Environmental acceptance	CFC Free
Outer/ Inner Skin [Body Sheet]	0.5mm GI Colour coated galvanised sheet
Density	40 $\pm$ 2 Kg/M^3
Closed cell content	90 - 95%
Thermal Conductivity	.017 - .020 W/M DEG K
Wall joints	Lockable

The floor insulation is proposed with laying of PUF slab of 80mm complete with tar felt sheets and bitumen below the flooring. Each room shall be leak proof.

The doors planned for the ripening rooms are insulated doors of hinge type (1.2m x 2.1m) to allow for ease of stuffing and de-stuffing of rooms.

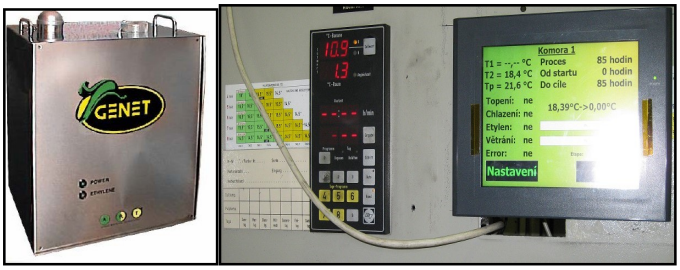
REFRIGERATION SYSTEM

The refrigeration system for the facility has been planned on “stand-alone” basis for each room. This will facilitate the operations of each ripening room independently and also allow for savings in power costs during shut off period.

The required heat load for each room has been estimated at 31 KW (refer Annexure 2 for heat load calculation sheet). Each ripening room is proposed to have 2 units of desired refrigeration capacity of around 55,000 btuh capacity. Pressurized air-flow within the room is proposed to ensure forced movement through the crates is planned with high CFM fans in evaporator units to meet the guidelines of NHB. Each of the rooms would require to maintain high humidity levels of 90 - 95% RH which is essential for ripening activity which is proposed to be achieved by installation of humidifiers complete with all accessories. Display and control units for temperature, humidity, ethylene and CO_2 levels in the ripening rooms are proposed to be installed so as to ensure proper monitoring of these levels.

RIPENING EQUIPMENT

The ripening system planned for the project consists of portable Ethylene Catalytic Generators placed within the ripening rooms and ethylene gas released in the room by using liquid with catalyst. Temperature sensors for air temperature are planned for each room. The desired concentration levels of gas are achieved within the room and monitored through a system of gas analysers placed within all room and a control system to allow for monitoring the levels of ethylene and CO_2 and duration of treatment. (refer below)



A ventilation system through installation of dampers is proposed for removal of CO_2 built-up within the room. The portable ethylene catalytic generators can be shifted amongst ripening rooms as per the requirement for initial dosing of ethylene in a room (upto 24 hours in banana).

MATERIAL HANDLING EQUIPMENT

The material handling equipment have been planned to ensure smooth movement of produce within the facility. The following components are planned for the facility:-

PLATIC CRATES

The fruit in crates of 20 kg capacity will be brought into the ripening rooms for ripening activity. For captive ripening, fruit filled crates after ripening process will be dispatched from the facility. Customers bringing fruit for ripening the facility will have owned crates. Hence, plastic crates (with distinctive markings) will be required for captive ripening in the project. The requirement for plastic crates is estimated at 1536 crates per room. Hence, a total requirement of around 6,150 crates is envisaged for the ripening activity in the project.

ANCILLARY EQUIPMENT

100% power back-up is proposed for the facility with 1 Genset of capacity 125 kVA complete with sound-proof covers. (refer calculations below)

POWER LOAD CALCULATION FOR UPPAL AGRO INDUSTRIES					
S.No	**EQUIPMENT**	**UNIT**	**QUANTITY**	**LOAD (KW)**	**TOTAL(KW)**
1	REFRIGERATION UNIT	Nos.	4	35	140
2	LIGHTING	Lot	1	5	5
3	MISCELLANEOUS	Lot	1	5	5
	TOTAL				**150**
	LOAD FACTOR @ 0.85				128
	DIVERSITY @ 0.7				89
	TAKING POWER FACTOR 0.85 KVA				105
	We choose 125KVA DG set taking 85% loading.				

d) Marketing & Forward Linkages for Project

The marketing efforts in the project are required to be planned for sale of quality ripened Banana & Mango as captive activity of the promoters.

The project has a key benefit of its location being in close proximity to the major markets of ---------- and other ----------markets and good connectivity by road from production belts. Hence, there is a major requirement for ripening of Banana and Mango handled by them for these markets. The benefits of controlled ripening rooms are now well recognized in

terms of better product quality & price realisations. Large farmers, traders and retail chains prefer to utilise such ripening facilities for improved fruit quality and also higher returns. The proposed project enjoys this advantage which will facilitate the marketing of ripened fruits. Hence, the project has excellent market potential with assured in-house business.

e) <u>Site Evaluation and Layout Planning</u>

The project site measures around 715 SQM and is located at----------, Village & Post. –----------Kerala The site being located on the village road has direct road access to site which allows for free truck movement to & from the project. (Refer Annexure ----)

The docking of trucks for unloading-loading operations will be provided within the project. There is sufficient space within the site for smooth planning of project facilities as well as buffer space for expansion. Hence, the entire project facility will be single storey structure made of Pre-fab steel shed. Open platforms have been provided for smooth unloading – loading operations. The following activity areas have been planned within the Project Building (Refer Annexure---- for layout plan):-

- Ripening Rooms of 30 MT capacity (dimensions 13.5m length x 7.0m width x 3.5m height – 4 nos of total capacity 120 MT per batch.

- Loading passage of 3.0 m width across the ripening rooms for smooth stuffing – destuffing operations.
- Banana Cleaning-Grading-Packing Area
- Administrative office, Changing Rooms & Toilet
- Unloading-Loading Area with truck docking stations for trucks.
- Parking Bay for trucks capable of handling 2-3 trucks.
- Electrical & Plant Control Room

FINANCIAL ASSESSMENT OF OPERATIONS

The Financial Assessment of the Project Operations for Ripening Store has been assessed based on the proposed activities to be carried out. The various financial aspects of the project have been assessed as under:-

TOTAL PROJECT OUTLAY

The total project outlay has been estimated at Rs 168.0 lacs as per the details given below:-

FINANCIAL OUTLAY FOR THE PROJECT		
		(Rs in lacs)
S.No.	**Description**	**Amount**
1.	Land	Nil
2.	Civil Works for new Construction, Electrical & Fire Detection, Solar Equipment	65.74
3.	Insulation & Refrigeration Eqpt.	100.55
4.	Pre-Operative Expenses	1.80
	Total	**168.09**

1. LAND

The project is proposed to be set up on a plot measuring 715 SQM and is located at ----------, Village & Post. – ---------- Dist. – Thrissur Kerala , The project land belongs to partners of the firm. Hence, land value has been taken at nil.

2. PRE-FAB SHED, CIVIL WORK, ELECTRICAL & SOLAR EQUIPMENT

A civil structure with plinth area measuring 44.0m x 10.0m (440 sq. m. approx) has already constructed and further 11.0m x 10.0m (110 sq. m. approx) is proposed to be built comprising Ground Floor for the ripening rooms. The proposed shed includes an area of around 154 sq. m. for loading & unloading operations. The total estimated cost for the civil structure is estimated at Rs 5.40 lacs as per details given below (as per civil items quotation). (Refer Annexure 6-- for cost details.)

The cost of electrical works including Panel, Transformer, lighting, cabling, panel etc. has been estimated at Rs 12.80 lacs. The proposed genset for 100% back-up covering 125 Kva (1 no) is estimated to cost Rs 8.95 lacs as per quotation from supplier.

Hence, total civil and electrical works have been estimated at Rs 27.15 lacs as follows:

S. No.	Components	Amount (Rs lacs)
1.	Civil works including Pre-fab shed	5.40
2.	Miscellaneous electrical works	12.80
3.	DG Set	8.95
	TOTAL	27.15

3. PLANT & MACHINERY FOR RIPENING STORE

The complete plant and machinery for the ripening project is proposed to be installed on turnkey basis for Rs 100.55 lacs covers the following:-

S. No.	Components	Amount (Rs lacs)
1.	PUF PANEL FOR WALLS & CEILING (1000 SQ.M.)	18.50
2.	PUF FLOOR INSULATION (400 SQ.M.)	6.20
3.	DOORS FOR RIPENING ROOM (4 NOS)	1.80
4.	REFRIGERATION SYSTEM (LOT)	47.80
5.	RIPENING EQUIPMENT (LOT)	8.25
6.	FIELD CRATES (3000 NOS)	18.00
	TOTAL	100.55

INSULATION, REFRIGERATION & RIPENING EQUIPMENTS

The proposed insulation, refrigeration and ripening equipments covering 4 nos ripening rooms of 30 MT capacity is proposed to be installed on turnkey basis at an estimated cost of Rs 100.55 lacs as per quotation received from suppliers (refer Annexure -- for Quotation).

MATERIAL HANDLING & ALLIED EQUIPMENT:

The proposed equipment for material handling covering crates is estimated to cost Rs 18.00 lacs as per quotation received from suppliers (Refer Annexure ---- for Quotation).

4. **SOLAR SYSTEM**

The estimates for solar system of the proposed Cold Store and Ripening Unit, including installation, etc. have been based on vendor quotations and estimated at Rs 40.80 Lacs. (Refer Annexure 8 for quotation of insulation and refrigeration equipment)

5. PRE-OPERATIVE EXPENSES

Pre-operative expenses have been estimated at Rs 1.80 lacs towards interest cost during construction period. (Refer interest on term loan workings as per Annexure 8)

SOURCE OF FUNDS

The Project is proposed to be funded through a mix of own funds and assets contributed by the promoters and bank loan covering term loan including back ended capital subsidy under scheme of MIDH for Post Harvest Management including Ripening Rooms. The promoter contribution in the project is proposed at Rs -------- lacs (10% of project cost) bank loans of Rs ---- lacs (---% of project cost). The debt-equity ratio of the project has been proposed at =----

The workings for eligible financial grant from AIF for the Post harvest scheme has been worked out as under :-

Financial Grant from National Horticulture Board				
				(Rs in lacs)
S. No.	**Component**	**Total Amount**	**Non Eligible for Grant**	**Eligible for Grant**
1	CIVIL WORKS & ELECT.	27.15		27.15
2	PLANT & MACHINERY	100.55		100.55
3	ALTERNATE TECHNOLOGY (SOLAR PANEL)	40.80		40.80
	TOTAL (A)	168.50		168.50
1	RIPENING CHAMBER @ 100000/- PER MT FOR 120 MT	120		120
2	ALTERNATE TECHNOLOGY (SOLAR PANEL) UPTO 35 LACS	35		35
	TOTAL (B)	155		155
	C) ELIGIBLE COST (LOWER OF A OR B ABOVE)	155		155
	SUBSIDY @ 35% OF C ABOVE			**54.25**

PROJECTED REVENUES

The projected revenues for the project operations have been worked out for proposed service offerings covering sale of captive banana ripening operations. The project is proposed to be fully completed by---------2022 and the first fullyear of operations shall be 2022 - 23. The proposed revenue stream has been based on competitive pricing and likely volumes to be handled, as discussed below :-

Banana Handling

The project has been planned to handle the entire 100% capacity for captive handling and ripening of banana by the promoters. With a 120 MT total capacity and annual 90 ripening cycles the total annual installed capacity is estimated at 10,800 MT. The first year of operations 2022-23 will be for full 12 months for which capacity utilization has been taken at 60%, followed by 2023-24 (70%), 2024-25 and onwards (80%). Hence, in the first year (2021-22), banana handling activity is proposed to handle 6,840 MT followed by 7,560 MT in second year, and 8,640 MT in the third and following years. Process losses have been taken at 10%. The banana realizations have been assumed at Rs 15/- per kg and purchases (including transport till site) at Rs 12.00/- per kg. A 5% increase in purchase & sale prices have been considered from 4^{th} year onwards year-on-year basis.

PROJECTED EXPENSES

The projected expenses for the proposed project operations have been worked out for proposed level of operations. Each of the cost components are discussed below :

1. Salaries & Wages are estimated at Rs 15.36 lacs annually - Manager 1 no (Rs 20,000/- pm); Plant Operator 1 no. (Rs 18,000/- pm); Accountant 1 no. (Rs 18,000/- pm) Operation Staff 5 nos (Rs 12,000/- pm); and Security Staff 1 nos (Rs 12,000/- pm). A 10% year-on-year increase has been proposed after the first year operations.

2. Water, Power & Fuel expenses have been estimated based on projected operational levels as under –

   Water requirements for basic washing and other cleaning operations have been estimated at 1KL per day with peak annual requirements of 360KL all of which will be met from captive borewell.

   Power & fuel requirements are based on connected load of 49 kw (16 hr run time per day) which are proposed to be met 50% with solar supply (day-time) and balance 50% from grid supply. The peak annual requirements have been estimated at 1.43 lac units on 100% capacity utilisation. The projected power costs (based on existing tariff for electricity @ Rs 6.5 per unit and for genset operations Rs 10.00 per unit) has been worked out on the basis of 90% running from direct supplies & 10% from

genset. Hence, the total projected costs under this head are Rs 5.88 lacs in 2022-23; Rs 6.86 lacs in 2023-24 and Rs 7.84 lacs in 2024-25 onwards. A 10% year-on-year increase has been proposed after the third year operations.

3. Repairs, Maintenance & Insurance Overheads have been estimated at 1%, 2% and 3% of the total cost of the equipment and project building for the first three years and onwards –Rs 1.66 lacs in 2022-23; Rs 3.33 lacs in 2023-24 and Rs 4.99 lacs in 2024-25 onwards. A 10% year-on-year increase has been proposed after the third year operations.

4. Administrative Overheads and Consumables covering ripening liquid for Ethylene Generator, Chemicals for washing & treatment of fruits, have been estimated at 2.0% of the total income to meet the various administrative costs and expenses.

5. Interest on bank Term loan of Rs 120.00 lacs have been taken at 7.0% pa. Interest subvention @ 3% is available under AIF scheme for complete loan (being less than Rs 2.00 crores) will be available for the entire period of loan including gestation period (upto maximum 7 years). Hence, interest calculations have been worked out @ 4.00% per annum basis. Subsidy available under MIDH scheme will be adjusted against the term loan on

receipt from MIDH. Repayment of term loan is assumed at 6 ½ years commencing after 6 month gestation period. The total interest charges for the first year are estimated at Rs 2.38 lacs; for the second year at Rs 1.97 lacs and third year at Rs 1.57 lacs. (Refer Annexure -----for interest & repayment schedule of Term loan).

6. Depreciation has been charged on WDV basis at the rates as per IT Act. The assets have been adjusted for the amount of eligible subsidy from MIDH received in 2022-23 (refer Annexure 9 for depreciation workings)

PROJECTED PROFITABILITY & FEASIBILITY

The Project has excellent profitability - positive Net Present Value (NPV) of Rs. 160.88 lacs (on 10% discount rate) and post tax IRR of 28.94%. The project has a short Payback period of 4 years, Average BEP of 42.56% and average debt service coverage ratio of 7.82 which indicates the strength of the project.

Revenue From Ripening Room Operations

(Rs.in Lacs)

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Annual Ripening Capacity (MT)	10800	10800	10800	10800	10800	10800	10800	10800	10800
Capacity Utilisation (%)	60%	70%	80%	80%	80%	80%	80%	80%	80%
Capacity Utilisation (MT)	6480	7560	8640	8640	8640	8640	8640	8640	8640
Income (Rs.in Lacs)									
RIPENED FRUIT SALES	874.80	1020.60	1166.40	1224.72	1285.96	1350.25	1417.77	1488.65	1563.09
Total Income	874.80	1,020.60	1,166.40	1,224.72	1,285.96	1,350.25	1,417.77	1,488.65	1,563.09
Expenses (Rs.in Lacs)									
Fruit Purchases	777.60	907.20	1036.80	1088.64	1143.07	1200.23	1260.24	1323.25	1389.41
Salaries & Wages	15.36	16.90	18.59	20.44	22.49	24.74	27.21	29.93	32.93
Electricity Charges	5.88	6.86	7.84	8.62	9.49	10.44	11.48	12.63	13.89
Repairs & Maintenance O/H	1.66	3.33	4.99	5.49	6.04	6.64	7.30	8.03	8.84
Administrative O/H & Consummables	17.50	20.41	23.33	24.49	25.72	27.01	28.36	29.77	31.26
Interest on Term Loan	2.38	1.97	1.57	1.16	0.76	0.35	0.02	-	-
Depreciation	14.96	12.90	11.13	9.61	8.30	7.18	6.21	5.38	4.66
Pre-operative expenses written off	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Total Expenses	835.52	969.75	1,104.42	1,158.65	1,216.05	1,276.76	1,341.00	1,409.17	1,481.17
Profit	39.28	50.85	61.98	66.07	69.91	73.50	76.76	79.48	81.92
Tax Expense:									
(a) Current Tax	12.26	15.87	19.34	20.62	21.81	22.93	23.95	24.80	25.56
Net Profit after Tax	27.03	34.99	42.64	45.46	48.10	50.57	52.81	54.68	56.36

PROJECTED BALANCE SHEET

(Rs.in Lacs)

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
I Equity & Liabilities										
(1) Shareholders' Funds										
(a) Promoter Capital	48.09	48.09	48.09	48.09	48.09	48.09	48.09	48.09	48.09	48.09
(b) Reserves & Surplus	-	27.03	62.01	104.65	150.11	198.21	248.78	301.59	356.27	412.64
(2) Non current liabilities										
(a) Bank Term Loan	120.00	55.63	45.51	35.39	25.27	15.15	5.03	(0.00)	0.00	0.00
(b) Working Capital Loan from Bank	-	-								
Total	168.09	130.74	155.61	188.13	223.47	261.45	301.89	349.68	404.36	460.72
II Assets										
(1) Non-current assets										
(a) Fixed Assets										
(i) Tangible Assets	166.29	97.07	84.17	73.04	63.43	55.12	47.94	41.73	36.35	31.70
(b) Other Non current assets	1.80	1.62	1.44	1.26	1.08	0.90	0.72	0.54	0.36	0.18
(2) Current Assets										
(a) Cash & Bank Balances	-	32.05	70.00	113.83	158.96	205.42	253.23	307.40	367.64	428.84
(b) Trade Receivables	-									
Total	168.09	130.74	155.61	188.13	223.47	261.45	301.89	349.68	404.36	460.72

PROJECTED CASH FLOW STATEMENT

(Rs.in Lacs)

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
A. CASH FLOW FROM OPERATING ACTIVITIES										
Net Profit Before Tax and Extraordinary Items	-	39.28	50.85	61.98	66.07	69.91	73.50	76.76	79.48	81.92
Adjustment for :-										
Depreciation/Amortisation	-	15.14	13.08	11.31	9.79	8.48	7.36	6.39	5.56	4.84
Operating Profit Before Working Capital Changes	-	54.42	63.93	73.29	75.87	78.40	80.86	83.15	85.04	86.76
Adjustment for:-										
Trade receivables etc.	-	-	-	-	-	-	-	-	-	-
Cash Generated from Operations	-	54.42	63.93	73.29	75.87	78.40	80.86	83.15	85.04	86.76
Direct Taxes paid	-	12.26	15.87	19.34	20.62	21.81	22.93	23.95	24.80	25.56
Net Cash from Operating Activities (A)	-	42.17	48.07	53.95	55.25	56.58	57.93	59.20	60.24	61.20
B. CASH FLOW FROM INVESTING ACTIVITIES										
Purchase of Fixed Assets	(166.29)	-	-	-	-	-	-	-	-	
Pre-operative Expenses	(1.80)	-	-	-	-	-	-	-	-	-
Govt. grant received credit linked with term loan	0.00	54.25	-	-	-	-	-	-	-	-
Term Loan from Bank	120.00	(64.37)	(10.12)	(10.12)	(10.12)	(10.12)	(10.12)	(5.03)	-	-
Working Capital Loan from Bank	0.00	-	-	-	-	-	-	-	-	-
Net Cash used in Investing Activities (B)	(48.09)	(10.12)	(10.12)	(10.12)	(10.12)	(10.12)	(10.12)	(5.03)	-	-
C. CASH FLOW FROM FINANCING ACTIVITIES										
Proceeds of Promoter Capital	48.09	-	-	-	-	-	-	-	-	-
Net Cash from Financing Activities (C)	48.09	-	-	-	-	-	-	-	-	-
Net Change in Cash & Bank Balances (A+B+C)	-	32.05	37.95	43.83	45.13	46.46	47.81	54.17	60.24	61.20
OPENING BALANCE OF CASH & BANK BALANCES	-	-	32.05	70.00	113.83	158.96	205.42	253.23	307.40	367.64
CLOSING BALANCE OF CASH & BANK BALANCES	-	32.05	70.00	113.83	158.96	205.42	253.23	307.40	367.64	428.84

NPV & IRR Calculation for Ripening Rooms

(Rs in Lacs)

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Net Cap Investment	-168.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cash Earning before Dep, Tax, Amort	-	54.42	63.93	73.29	75.87	78.40	80.86	83.15	85.04	86.76
I Tax	-	12.26	15.87	19.34	20.62	21.81	22.93	23.95	24.80	25.56
Net Earning after Tax	-	42.17	48.07	53.95	55.25	56.58	57.93	59.20	60.24	61.20
Salvage Value	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	85.95
Net Cash Flow	-168.09	42.17	48.07	53.95	55.25	56.58	57.93	59.20	60.24	147.15
Cum. Cash Flows		-125.92	-77.85	-23.90	31.35	87.94	145.86	205.07	265.31	412.46
NPV (at 10% discount)	**160.88**									
IRR (POST-TAX)	**28.94%**									

BREAK EVEN POINT CALCULATIONS									(Rs in Lacs)
PARTICULAR	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**	**2030-31**
FIXED COST									
DEPRECIATION	15.14	13.08	11.31	9.79	8.48	7.36	6.39	5.56	4.84
REPAIR & MAINTENANCE	1.66	3.33	4.99	5.49	6.04	6.64	7.30	8.03	8.84
SALARIES(75%)	11.52	12.67	13.94	15.33	16.87	18.55	20.41	22.45	24.69
ADMN O/H (60%)	10.50	12.25	14.00	14.70	15.43	16.20	17.01	17.86	18.76
INTEREST ON TERM LOAN	2.38	1.97	1.57	1.16	0.76	0.35	0.02	0.00	0.00
TOTAL	41.20	43.30	45.80	46.47	47.58	49.11	51.14	53.91	57.13
VARIABLE COST									
WATER, POWER & FUEL	5.88	6.86	7.84	8.62	9.49	10.44	11.48	12.63	13.89
SALARIES(25%)	3.84	4.22	4.65	5.11	5.62	6.18	6.80	7.48	8.23
ADMN O/H (40%)	7.00	8.16	9.33	9.80	10.29	10.80	11.34	11.91	12.50
FRUIT PURCHASES	777.60	907.20	1,036.80	1,088.64	1,143.07	1,200.23	1,260.24	1,323.25	1,389.41
TOTAL	794.32	926.45	1058.62	1112.17	1168.47	1227.65	1289.86	1355.27	1424.04
INCOME	874.80	1020.60	1166.40	1224.72	1285.96	1350.25	1417.77	1488.65	1563.09
CONTRIBUTION	80.48	94.15	107.78	112.55	117.49	122.61	127.90	133.39	139.05
BREAK EVEN POINT	51.19	45.99	42.50	41.29	40.49	40.05	39.98	40.41	41.08
AVERAGE BEP	**42.56**								

AVERAGE DEBT SERVICE COVERAGE RATIO							Rs in Lacs
	2022-23	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**
EBITD	56.80	65.91	74.86	77.03	79.15	81.21	83.18
Repayment of Loan & Intt	12.50	12.09	11.69	11.28	10.88	10.47	5.06
DSCR	4.55	5.45	6.40	6.83	7.28	7.75	16.45
Avg. DSCR	**7.82**						

PROJECT IMPLEMENTATION SCHEDULE

The proposed project has the advantage of readily available basic infrastructure of land with easy access to all utilities and road connectivity. This can be leveraged for a very short gestation period of 5 - 6 months to set up the facility. The proposed facility is proposed to be set up with the following time frame of 5 - 6 months, and will be launched in June 2022:

S. No.	Activity	Time Frame
1.	Approval of Financial Assistance from MIDH & Funding from bank	4 weeks
2.	Finalisation of Contracts	4 weeks
3.	Civil Work & Structure	8 weeks
4.	Procurement & supply of Insulation, Refrigeration, Ripening Equipment & Ancillary equipment.	10 weeks
5.	Installation of equipment, Utilities and Finishing Work	4 weeks
6.	Trial Runs & Commissioning	2 weeks

Note: Activities listed at serial no. 3 and 4 can be undertaken simultaneously followed by activity at 5 and 6. Hence, the total project can be completed in a time span of 24 weeks.

Potential, Social, Environmental Impact on Small Farmer, Risk Analysis & Replication Factor of the Unit

The proposed project will be the first such value addition project to be set up for the benefit of farmers in Western UP. The lack of such a facility closer to the major banana consumption markets of ----------major setback for farmers seeking direct access through northern India. The project is likely to provide wide-spread social and economic benefits to the farmers, consumers and traders across the country as discussed below:

- Development of ripening facility for value addition with competitive charges for users.
- Promotion of safe and quality graded- ripened fruit which is likely to fetch better realization for farmers
- Benefit of proximity to consumption markets of Delhi and Haryana can reduce the transit losses and improve product quality.
- Facility can function as Resource centre and provide farmers training in post harvest handling to ensure high quality and distribute kits. The project aims to develop dedicated relationship with farmers in U.P, Maharashtra & Gujarat.
- Minimization of Post harvest losses can result in value creation for the farmers with resultant economic benefit.

ANNEXURE 1 – RIPENING TABLE FOR FRUITS & VEGETABLES

S. No.	Product	Ethylene Concentration	Ethylene Exposure Time	Ripening Temp	Predicted Storage after Temp
1.	Apple	10 ppm	6 days	25 deg C	Less than 4 months at 8 deg C
2.	Banana	100 – 150 ppm	24 to 48 hrs	14 to 18 deg C	Less than 7 days at 14 deg C
3.	Kiwi Fruit	100-200 ppm	12 hrs	0 to 5 deg C	3 to 6 weeks at 0 deg C
4.	Mango	100 ppm	12 to 24 hrs	15.5 to 25 deg C	Less than 7 days at 10 to 13 deg C
5.	Pear	100 ppm	20 to 24 hrs	20 to 25 deg C	Storage life is not affected if fruits are cooled to 0 deg C
6.	Tomato	100 ppm	3 to 35 days to reach breaker stage and 5 to 16 days depending on temp to reach full red stage	18 to 20 deg C	7 days after reaching the Red stage

ANNEXURE 2 – HEAT LOAD CALCULATION

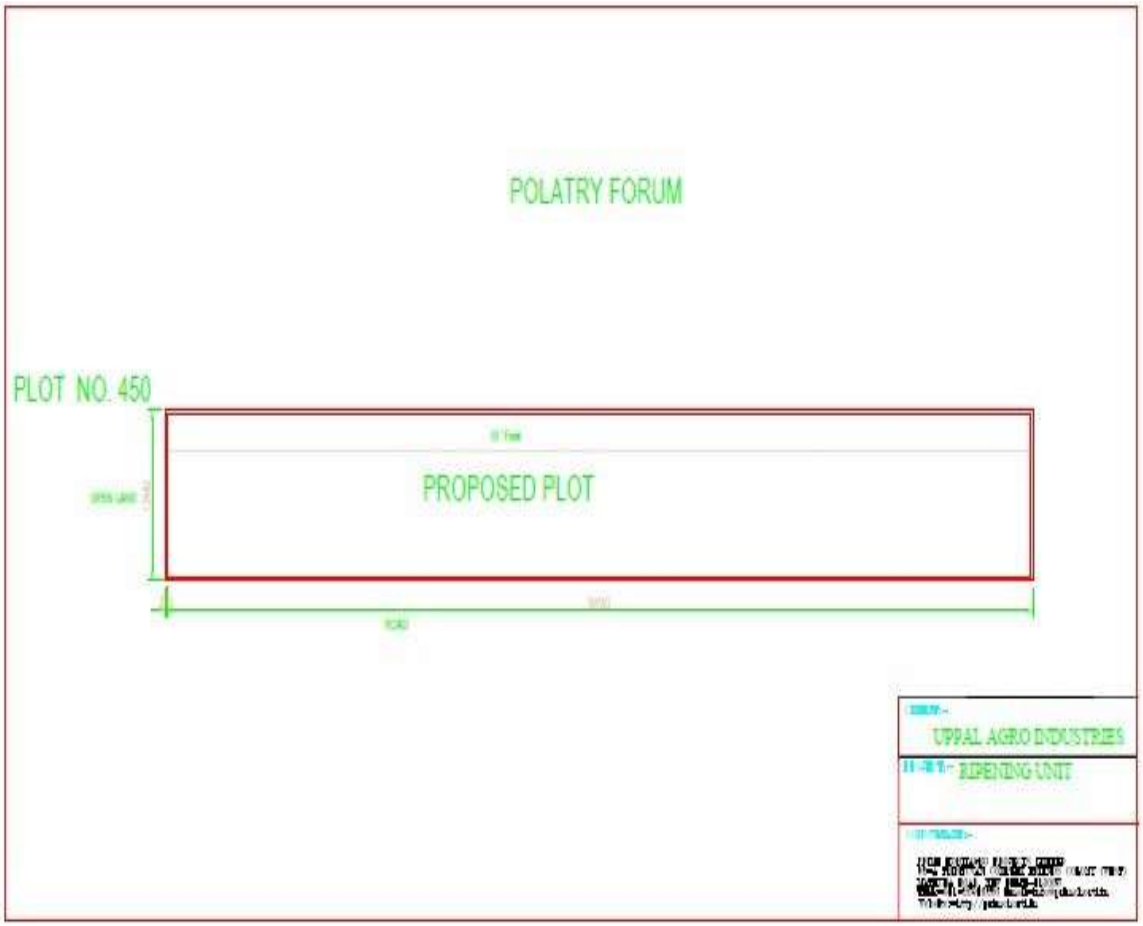
Client: Uppal Agro Industries Location: Amroha (UP)

30 MT Banana ripening x 4 rooms

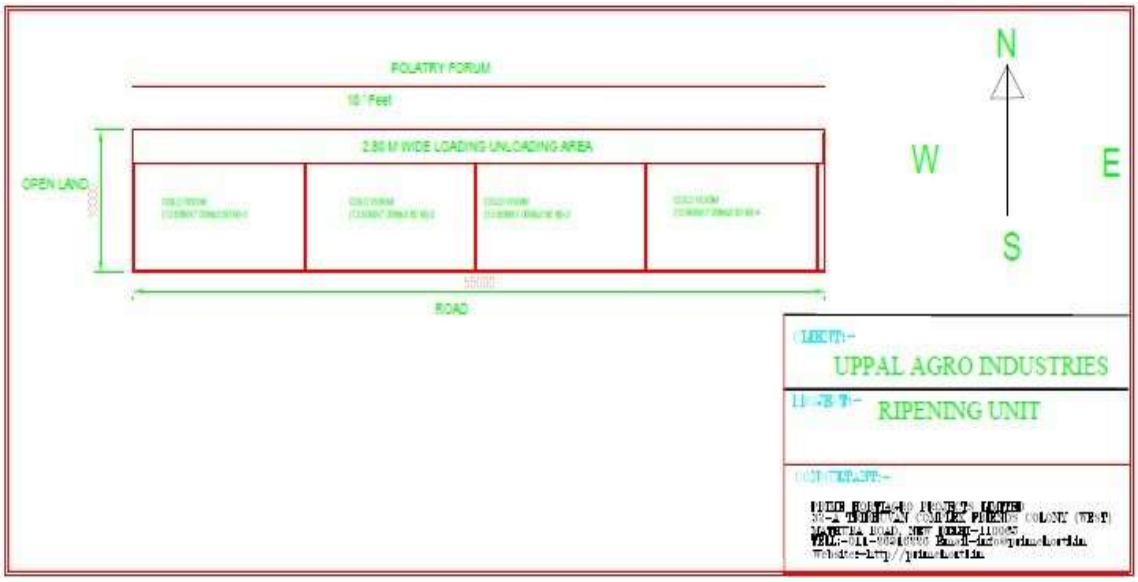
Basis of design			Type of product		
Room size	meter	Foot	Room Temp. to be maintained	Deg C	Deg F
L	13.5	44.28		42	107.6
W	7	22.96	Ambient temp	Deg C	Deg F
H	3.5	11.48		30	86.0
Product storage capacity	30000	kg	Product in temp	25	77
Product daily loading	30000	kg	product storage temp	14	57.2
prod sp heat banana	0.8	btu	Product freezing temp		
		btu	ACU motor kW	0.55	
Respiration load factor for banana	2.75	btu	No of ACU/Room	2	
		btu	No of motor/ACU	2	
Insulation	insu thk	u value btu	Total no of ACU motor	4	
u value wall PUF	80	0.045	no of fork lift op.in a room	0	
u value ceiling PUF	80	0.045	fork lift motor	0	kW
u value floor PUF	80	0.045	No of persons	0	
Area sq ft	1	2	3	4	
wall	508.3	508.3	263.6	263.6	1543.8
ceiling	1016.7				1016.7
floor	1016.7				1016.7
Total Area sq ft					**3577.168**

Wall heat gain	Area	u value	out side temp	inside temp	heat gain (btu/hr)		
Wall 1	508.3344	0.045	86	107.6	-494.10		
Wall 2	508.3344	0.045	86	107.6	-494.10		
Wall 3	263.5808	0.045	86	107.6	-256.20		
Wall 4	263.5808	0.045	86	107.6	-256.20		
ceiling	1016.669	0.045	86	107.6	-988.20		
floor	1016.669	0.045	86	107.6	-988.20		
Total heat gain					**-3477**	**btu/hr**	**(A)**
Volume of room							
Vol	11671.36	cu ft					
Air change / 24 hr	6.5						
Heat removal in cooling air to room condition	2.75	btu/cuf					
Air change load/hr					**8693**	**btu/hr**	**(B)**
ACU Motor load							
Motor kW	0.55						
No of motors in room	4						
Factor	1.34						
Factor	2950						
Motor load/ hr					**8697**	**btu/hr**	**(C)**
People load							
No. of person working inside room	0						
Factor	1300						
People load					**0**	**btu/hr**	**(D)**
Lighting load							
assume watt/sqft	0.7						
Factor	3.41						
Area floor sq ft	1016.669						
Lighting load					**2427**	**btu/hr**	**(E)**
Fork lift load							
Motor kW	0						
No of forklift in the room	0						
Factor	1.34						
Factor	2950						
Motor load/ hr					**0**	**btu/hr**	**(F)**
Total load (A to F)					**16339**	**btu/hr**	**(G)**
Safety 10%					**1634**	**btu/hr**	**(H)**
Total - I					**17973**	**btu/hr**	
Assume compressor running 18 hrs							
load other than product load will be					**23964**	**btu/hr**	**.(1)**
Product load calculation							
Product load banana			**1045440**	**btu/day**			
Product load below freeze			**0**	**btu/day**			
Respiration load			**181500**	**btu/day**			
RH load			**122694**	**btu/day**			
Total product load/day			**1349634**	**btu/day**			
Product load/hr			**74980**	**btu/hr**			
Product load including 10% safety					**82477.63**	**btu/hr**	**.(2)**
Total load (1 + 2)					**106442**	**btu/hr**	
					31	**kW**	

ANNEXURE 3– SITE MAP



ANNEXURE 4 – BUILDING LAYOUT PLAN



ANNEXURE 5– CIVIL, ELECTRICAL & DG WORKS QUOTATION

Ref- 42

Date = 21 / 03 /2022

Email -

Sr.NO	Description of work	Qty	Unit	Rate	Amount
1	Construction of Pre Engineered Building for Cold Storage with Material	1200	SQFT	450	540000
2	Supply and Installation of Electrical cable, LT Panel, Lights and etc for 04 nos. of Ripening Rooms	1	Lot	1280000	1280000
3	62 KVA DG Set	1	Nos.	895000	895000
	Add GST @18%				Inclusive
				Total	**2715000**

Payments =

1- 10% at time of work order sign .

2- 20% of total value at the time of completion all foundation .(Before Anchor bolt casting)

3- 90% of total value at the time of PEB Supply, Elerical Items and DG .

7 - 100 % of total value at the time of finishing of projects

Complection Time --04 Months

Client Name	
Consultant	**Mr. Rajeev Goswamy**
Project Name	**Prime Hortiagro Cold Storage**

Contactor Name . Dinesh Sharma

Rakesh Sharma

ANNEXURE 6 – EQUIPMENT QUOTATION

AGRITECH EQUIPMENT & SERVICES PVT. LTD.
BF-3A, TC Jaina Tower II, District Centre, Janakpuri, New Delhi – 110058
Tel: 011-25595119, E-mail: enquiry@agritech.in

Annexure - 3

Basis of Design for Refrigeration System

S. No.	Description	Ripening Room
1	Room Size	13.5m x 7.0m x 3.5m (4 rooms with common walls)
2	Product to be stored	Banana
3	Ambient Temp	+43 Deg C
4	Room Temp	14 to 16 Deg C
5	Refrigeration Unit for rooms	Air cooled Condensing units with semi-hermetic reciprocating compressor of cooling capacity 85000 btu/hr at 7.2 deg C evaporating temp and +43 deg C ambient temp with SS 304 Evaporator of suitable capacity
6	Type of Compressor	Hermetically Sealed
7	Compressor Make	Emerson
8	Cooling Unit	SLE 120/14"
9	Refrigerant	R-22
10	Electrical Power Requirements (V/Ph/Hz)	400/3/50

ANNEXURE 6 (CONTD.) – EQUIPMENT QUOTATION

AGRITECH EQUIPMENT & SERVICES PVT. LTD.
BF-3A, TC Jaina Tower II, District Centre, Janakpuri, New Delhi – 110058
Tel: 011-25595119, E-mail: enquiry@agritech.in

ANNEXURE 5

RIPENING EQUIPMENT

A) ETHYLENE GENERATORS OF GENET MAKE (1 NO)

B) ETYLENE & CO2 SENSORS (1 SET PER ROOM) – RANGE 0-5% FOR CO2 AND 0-2000PPM FOR ETHYLENE SENSORS.

C) GAS CONTROL SYSTEM (INTEGRATED FOR ALL ROOMS)

D) INTEGRATED ADIABATIC HUMIDIFICATION SYSTEM OF MIATECH USA COVERING ALL ROOMS FOR ACHIEVING RH OF 90 – 95%

PRICE

Rs 1,00,55,000.00 (Rupees Forty One Crore Fifty Five thousand only)

ANNEXURE 7 – CRATES QUOTATION

Sub:- Quotation for Plastic Crates.

Kindly refer to your enquiry for supply of perforated plastic crates. As desired by you, we give below our quotation for the same:

Description	**Qty**	**Rs.(Per pc)**
Plastic Crate (OD 650 x 400 x 350 mm +/- 2mm)	6**000Nos**	**254.00**

Capacity Approx.44 ltrs

1. GST 18% Extra per unit.

2 Freight charges Extra as actual

3 Road Permit to be provided by you.

4 Any standard Colour

5 Screen Printing as per your matter or logo

6 Payment Against Proforma-Invoice before dispatch of materials.

7 Delivery 3/4 days after receipt of confirm order, payments and road permits from you.

8. Validity 7 days

We hope you will find our offer in order to favour us with your valued order.
Thanking you and assuring you of our prompt services at all times.

Yours faithfully,

Vinod Goyal
Director

ANNEXURE 8 – SOLAR SYSTEM QUOTATION

ANNEXURE 9 – TERM LOAN REPAYMENT & INTEREST SCHEDULE

INTEREST & REPAYMENT SCHEDULE OF TERM LOAN					
					(RS. IN LACS)
Year	**QTR**	**LOAN AMOUNT**	**INTT. @ 7.0%** (SUBJECT TO 3% INTT. SUBVENT.)	**INTT. PAID**	**PRIN. PAID**
2021-22	1	60.00	0.60		
	2	120.00	1.20	1.80	0.00
2022-23	3	63.22	0.63		
	4	60.69	0.61		
	5	58.16	0.58		
	6	55.63	0.56	2.38	10.12
2023-24	7	53.10	0.53		
	8	50.57	0.51		
	9	48.04	0.48		
	10	45.51	0.46	1.97	10.12
2024-25	11	42.98	0.43		
	12	40.45	0.40		
	13	37.92	0.38		
	14	35.39	0.35	1.57	10.12
2025-26	15	32.86	0.33		
	16	30.33	0.30		
	17	27.80	0.28		
	18	25.27	0.25	1.16	10.12
2026-27	19	22.74	0.23		
	20	20.21	0.20		
	21	17.68	0.18		
	22	15.15	0.15	0.76	10.12
2027-28	23	12.62	0.13		
	24	10.09	0.10		
	25	7.56	0.08		
	26	5.03	0.05	0.35	10.12
2028-29	27	2.50	0.02		
	28	0.00	0.00	0.02	5.03

ANNEXURE 10 – DEPRECIATION SCHEDULE

DEPRECIATION ON FIXED ASSETS (As Per IT Act)										(Rs.in Lacs)
	2021-22	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**	**2030-31**
Land										
Book Value	-	-	-	-	-	-	-	-	-	
Civil Works										
Book Value	65.74	65.74	33.19	29.87	26.89	24.20	21.78	19.60	17.64	15.88
Less: Adjustment for Grant	-	(28.85)	-	-	-	-	-	-	-	-
Less: Depreciation	-	(3.69)	(3.32)	(2.99)	(2.69)	(2.42)	(2.18)	(1.96)	(1.76)	(1.59)
Net Value	65.74	33.19	29.87	26.89	24.20	21.78	19.60	17.64	15.88	14.29
Plant & Machinery										
Book Value	100.55	100.55	63.88	54.30	46.15	39.23	33.35	28.34	24.09	20.48
Less: Adjustment for Grant	-	(25.40)	-	-	-	-	-	-	-	-
Less: Depreciation	-	(11.27)	(9.58)	(8.14)	(6.92)	(5.88)	(5.00)	(4.25)	(3.61)	(3.07)
Net Value	100.55	63.88	54.30	46.15	39.23	33.35	28.34	24.09	20.48	17.41