

कृषि और संबद्ध गतिविधियों में निवेश गतिविधियों के लिए

इकाई लागत 2021-22

Unit cost for Investment Activities in Agriculture and
Allied Activities 2021-22



राज्य - महाराष्ट्र
State - Maharashtra

राष्ट्रीय कृषि और ग्रामीण विकास बैंक
**NATIONAL BANK FOR AGRICULTURE AND
RURAL DEVELOPMENT**

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Introduction

With a view to giving a fillip to investment credit under agriculture sector in the state, NABARD had re-started the practice of fixing Unit Costs for major activities during 2012-13. This year also NABARD has initiated the process of fixing/finalizing Unit Costs for major agriculture and allied activities in the state. The basic objective of the exercise is to make available, benchmark costs under various investment activities to financial institutions and line departments and thereby help these agencies in deciding appropriate levels of financing for each activity, which in turn can help obviate under or over financing. In addition to the above, these Unit Costs also provided an indication of the expected benefits from each activity under ideal conditions. More importantly, the unit cost computations also provide a detailed breakup of various components/parameters, which influence costs under various activities.

1. Water Resources



Minor Irrigation

SI No	Item of Investment	Specifications	Unit Cost for 2021-22 (Rs)
1	Dug-well in Sandstone and Metamorphic formation in Vidarbha region (applicable to Gadchiroli, Chandrapur, Bhandara districts and part of Nagpur district)	dia 3m,depth 18m, depth of lining 8m	1,57,300.00
2	Dug-cum-borewell in alluvial formation of Tapi & Purna basins in Vidarbha Region Akola, Amravati, Buldhana & Dhule dists.	dia 3m,20m depth, RCC lining of 0.45m thickness,20m height Boring-150mm dia, 20m depth	1,33,100.00

Dug Wells in Deccan Trap*

3	Dug well in Konkan region (Thane, Raigad, Ratnagiri and Sindhudurg districts)	dia 4.5m, 10m depth of lining 3m	1,20,000.00
4	Dug well in Pune region (Pune, Sangli, Satara, Solapur and Kolhapur districts)	dia 4.5m, 15m depth of lining 4m	1,57,300.00
5	Dug well in Amravati region (Amravati, Akola, Washim, Yavatmal and Buldana districts)	dia 4.5m, 15m depth of lining 4m	1,21,000.00
6	Dug well in Nagpur region (Chandrapur, Nagpur, Gadchiroli, Wardha, Bhandara & Gondia districts)	dia 4.5m, 15m depth of lining 4m	1,21,000.00
7	Dugwell in Aurangabad region (Aurangabad, Beed, Osmanabad, Parbhani, Hingoli, Nanded, Latur & Jalna districts)	dia 6.0m, depth 15m , depth of lining 4m	1,33,100.00
8	Dugwell in Nasik (East) region (Ahmednagar, Nasik, Dhule & Nandurbar districts)	dia 5.0m, depth 15mdepth of lining 4m, boring 150mmx15m	1,39,150.00
9	Dug well in Nasik (West) region (Akkalkuwa & Akrani in Nandurbar district, Akole in A'Nagar dist. and Surgana, Peint, Igatpuri & Kalwan in Nasik dist.	dia 5.0m, 10m depth of lining 4m	1,21,000.00

* Unit Cost for dug well may be considered as per the cost calculated under govt. programs in the district

Bore Wells

10	Bore well in Sandstone & Metamorphic formation in Vidrarbha Region (applicable to Gadchiroli, Gondia, Chandrapur, Bhandara districts & part of Nagpur district, Dhadgaon and Akkalkua tehsils of Nandurbar district and Dharani and Chikaldara of Amravati dictrict) 150 mm dia. Well drilling, PVC casing pipe of 180 mm dia, bore well yield testing, survey charges	36,300.00
11	Tube-cum-borewell in alluvial formation of Tapi & Purna basins in Vidarbha Region Akola, Amravati, Buldhana , Dhule& Jalgaon dists.	2,35,950.00
12	Bore well in Lateritic formation (generally in Konkan Region i.e., Thane, Raigad, Ratnagiri & Sindhudurg districts Bore well drilling 150 mm dia, MS casing 150 mm dia, bore well yield testing, survey charges	42,350.00
13	Bore well in Deccan Trap formation i.e Pune Region (Pune, Sangli, Satara, Solapur & Kolhapur districts), Nasik (East) Region (Ahmednagar, Nasik, Dhule & Nandurbar dictricts), Nasik (West) Region (Akkalkuwa & Akrani in Nandurbr district, Akole in A'Nagar district & Surgana, Peint, Igatpur & Kalwan in Nasik dist. Aurangabad Region (Aurangabad, Beed, Osmanabad, Parbhani, Hingoli, Nanded, Latur & Jalna districts), etc 150 mm dia. Well drilling, PVC casing pipe of 180 mm dia, bore well yield testing, survey charges	31,460.00

Pumping System

Sl. No.	Item of Investment	Unit Cost for 2021-22 (Rs)
a	PUMPSETS	
i	Submersible Pump sets	
1	3 HP	40,000.00
2	5 HP	55,000.00
ii	Electric Pump sets with accessories and installation charges	
1	2 HP	15,000.00
2	3 HP	20,000.00
3	5 HP	30,000.00
4	7.5 HP	35,000.00
iii	Diesel Pump sets with accessories & installation charges	
1	5 HP	35,000.00
2	7.5 HP	40,000.00
iv	Petrol start Kerosene run pump sets with accessories & installation charges	
1	2 HP	15,000.00
2	3.5 HP	20,000.00

b	PUMPHOUSE	
1	Pump house (2.5 x 2.5 x 2.1m)	15,000.00

For solar pump sets bench cost and subsidy available as per circular No.252/DOR.GSS.60/2014 dated 17/12/2014 addressed to CBs, RRBs, StCBs & SCARDBs

Drip Irrigation Systems with Drippers for various Plantation and Horticulture Crops and Floriculture

Sl.No	Crop	Specifications	Unit Cost for 2021-22 (Rs) / Ha.
i	Mango/Chiku/Tamarind	10 x 10m	25,000.00
ii	Coconut	8 x 8m	41,000.00
iii	Coconut	7 x 7m	34,000.00
iv	Guava, Lemon, Orange, Mosambi, Cashew	6 x 6m	40,000.00
v	Custard Apple, Pomegranate, Ber, Fig, Drumstick	5 x 5m	36,000.00
vi	Papaya, Arecanut, Tondali, Drunstick	3 x 3m	58,000.00
vii	Grape	3 x 1.5m	60,000.00
viii	Grape	1.80 x 1.20m	1,00,000.00
ix	Banana	2.50 x 2.50m	60,000.00
x	Banana	1.50 x 1.50m	85,000.00
xi	Sugarcane	1.40 x 0.60 x 0.30m	1,00,000.00
	Sugarcane	sub surface irrigation (per 0.4 ha)	50,000.00
xii	Cotton pair row, Sugarcane	2.30 x 0.75 x 1.50m	60,000.00
xiii	Cotton, Ginger	1 x 1m	1,00,000.00
xiv	Vegetable, Rose	0.75 x 0.75m	1,00,000.00
xv	Strawberry	0.75 x 0.60 x 0.30m	1,00,000.00
xvi	Other Flowers (Nishigandha, Gladioli and Chrysanthemum)	0.20 x 0.30 m	1,00,000.00
xvii	Mulberry	1.5x0.9x0.6 m	60,000.00

Sprinkler Irrigation System (for field crops like pulses and oilseeds)

Sl.No	Particulars	Unit Cost for 2021-22 (Rs)
i	63 mm HDPE pipes	25,000.00
ii	75 mm HDPE pipes	30,000.00

2. Farm Mechanization



Sr	Activities	Unit Cost for 2021-22 (Rs)
1	Tractor, Trailer, Reaper, Combined Harvester, other farm implements	As per quotations
2	Conventional carts	
a	Capacity 5 qtl.	16,000.00
b	Capacity 8 qtl.	20,000.00
3	MAIDC tyre carts	
a	Capacity 2 T	26,620.00
b	Capacity 3 T	28,380.00
c	Locally fabricated	21,780.00
4	MAIDC Steel carts	
a	1 MT	36,300.00
b	2 MT	37,400.00
c	3 MT	38,500.00
d	Locally fabricated 3.5 MT	40,700.00

3. Plantation & Horticulture



Sl. No	Crops	Spacing	Unit Cost for 2021-22 (Rs/Ha.)	Unit Cost for 2021-22 (Rs/Ha.) Konkan Region
1	Mango	10x10 metre	1,57,000.00	1,64,561.00
	Mango	5x5 metre	2,38,750.00	
2	Guava	5x5 metre	1,08,000.00	
	Guava	2x2 metre	2,76,000.00	
3	Grapes		11,64,915.00	
4	Pomegranate		2,05,188.00	
5	Mandarin orange		1,76,218.00	
6	Sweet orange		1,60,705.00	
7	Acid lime		1,67,438.00	
8	Aonla		78,886.00	
9	Sapota		1,28,603.00	
10	Custard apple		1,14,300.00	
11	Cashew nut		93,829.00	96,126.00
12	Fig		1,58,470.00	
13	Bamboo plantation		30,000.00	30,000.00
14	Drumstick		1,47,627.00	
15	Champaca		1,41,300.00/acre	

Banks in Konkan area may need to consider suitable/need based revision in unit cost wherever necessary.

Protected Cultivation of High value Horticulture Crops

Sl.No	Crops	Area	Unit Cost
1	Gerbera	1000 Sqm	12,31,004.00
2	Cucumber	4000 Sqm	40,09,157.00
3	Tomato	4000 Sqm	40,02,583.00
4	Capsicum	4000 Sqm	40,17,783.00

Unit cost for Mango cultivation under Ultra High Density Farming

Variety		:	Kesar							
Spacing		:	3m x 2m							
Unit area		:	1 acre							
No. of pts/ acre		:	666		(Amt. Rs.)					
Particular	Unit	No/ Rate	1'st Year		2'nd Year		3'rd Year		4'th Year	
INPUT MATERIALS			Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Planting materials										
Total Plants	Nos	40	666	26640						
Gap Filling	Nos	40			70	2800				
Manures and Fertilisers										
a Organic Manure	MT	1000	3.3	3300	3.3	3300	6.66	6660	9.99	9990
b Fertilizers & Pesticides										
i N:P2O5:K2O	gm/pt		35:15:25	1123	45:25:50	1881	75:50:75	3298	120:75:100	4833
ii Micro nutrients	LS			250		500		1000		1000
c Pesticides/ fungicides	LS			1000		3000		13000		20000
Subtotal - Input				32313		11481		23958		35823
OPERATIONS										
a Land preparation (machinery)	acre	1000		1000						
b Pit digging, filling, planting	No.	45	666	29970		1500				
c Irrigation/ fertigation				3000		3000		3000		3000
d Application of chemicals	MD	250	2	500	5	1250	8	2000	8	2000
e Interculture/ Pruning/ training	MD	200	5	1000	10	2000	15	3000	15	3000
f Harvesting cost	MD	200					5	1000	5	1000
Subtotal - Operations				35470		7750		9000		9000
TOTAL EXPENSES PER ACRE				67783		19231		32958		44823
UNIT COST - Capitalised for first 3 years				119972	Rounded off to Rs 1,20,000/-					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	
Capital Investment										
MI System		30000								
Orchard development		67783	19231	32958						
Total		97783	19231	32958						
Maintenance expenses										
				44823	49306	54236	59660	65626		
TOTAL EXPENSES			97783	19231	32958	44823	49306	54236	59660	65626
(10% increase considered from 5th year onwards)										
Income										
Yield (MT/Acre)		0.0	0.0	3.0	4.0	5.0	6.0	6.0	6.0	
Income @ Rs 20 per Kg				60000	80000	100000	120000	120000	120000	
Net income from orchards				27042	35177	50694	65764	60340	54374	
Financial Analysis										
Years ----->		1	2	3	4	5	6	7	8	9
Cost		97783	19231	32958	44823	49306	54236	59660	65626	72188
Benefit		0	0	60000	80000	100000	120000	120000	120000	120000
Net benefit		-97783	-19231	27042	35177	50694	65764	60340	54374	47812
IRR		26%								
NPV of costs		278860								
NPV of benefits		334903								
Net Present Worth		56042								
B C Ratio		1.20								
Repayment schedule										
Year	Loan disbursed	Loan o/s	Interest @ 10%	Repayment				Net benefit		
				Interest	Principal	Total				
1	61005	61005	6100	6100	0	6100	0			
2	17308	78313	7831	7831	0	7831	0			
3	29662	107975	10797	10797	0	10797	16245			
4	0	107975	10797	10797	10309	21106	14071			
5	0	97666	9767	9767	20650	30417	20278			
6	0	77016	7702	7702	31757	39458	26306			
7	0	45260	4526	4526	31678	36204	24136			
8	0	13581	1358	1358	13581	14940	39435			

Assumptions

Rate of Interest at 10%; Loan at 90% of the proposed UC

60% of net income reckoned towards payment of interest and repayment of principle

Repayment in 8 years with 3 years moratorium for principle

Expenses - 10% increase considered from year 5 onwards

Income - kept on a conservative basis; no increase considered over the years in price of Mango.

Unit cost for Pomegranate cultivation under Ultra High Density Farming

Variety	:	Bhagwa
Spacing	:	3m x 2m
Unit area	:	1 acre
No. of pts/ acre	:	666

(Amt. Rs.)											
A	Particular	Unit	No/ Rate	1'st Year		2'nd Year		3'rd Year		4'th Year	
				Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
INPUT MATERIALS											
1	Planting materials										
	Total Plants	Nos	30	666	19,980						
	Gap Filling	Nos	30			70	2,100				
2	Manures and Fertilisers										
a	Organic Manure	MT	1000	3.33	3,330	6.66	6,660	9.99	9,990	9.99	9,990
b	Fertilizers & Pesticides										
i	N:P2O5:K2O	gm/pt		100:100:100	4,923	200:150:150	7,782	250:175:175	9,211	300:200:225	10,986
c	Pesticides/ fungicides/ micronutrients	LS			5,000		11,000		18,000		24,000
	Subtotal - Input				33,233		27,542		37,201		44,976
OPERATIONS											
a	Land preparation (machinery)	acre	1000		1,000						
b	Pit digging, filling, planting	No.	45	666	29,970		1,500				
c	Irrigation/ fertigation				3,000		3,000		3,000		3,000
d	Application of chemicals	MD	250	2	500	5	1,250	8	2,000	8	2,000
e	Interculture/ Pruning/ training	MD	200	5	1,000	10	2,000	15	3,000	15	3,000
f	Harvesting cost	MD	200					5	1,000	5	1,000
	Subtotal - Operations				35,470		7,750		9,000		9,000
C	TOTAL EXPENSES PER ACRE				68,703		35,292		46,201		53,976
UNIT COST - Capitalised for first 3 years					1,50,195/-	Rounded off to Rs 1,50,000/-					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8		
D Capital Investment											
	MI System		30000								
	Orchard development		68,703	35,292	46,201						
	Total		98,703	35,292	46,201						
E	Maintenance expenses				53,976	59,373	65,311	71,842	79,026		
F	TOTAL EXPENSES		98,703	35,292	46,201	53,976	59,373	65,311	71,842	79,026	
(10% increase considered from 5th year onwards)											
G Income											
	Yield (MT/Acre)		0	0	2	4	6	6.5	6.5	6.5	
	Income @ Rs 23 per Kg				46,000	92,000	138,000	149,500	149,500	149,500	
	Net income from orchards				-201	38,024	78,627	84,189	77,658	70,474	
					2,000	4,000	6,000	6,500	6,500	6,500	
H] Financial Analysis											
	Years ----->		1	2	3	4	5	6	7	8	9
	Cost		98703	35292	46201	53976	59373	65311	71842	79026	86929
	Benefit		0	0	46,000	92,000	138,000	149,500	149,500	149,500	149,500
	Net benefit		-98703	-35292	-201	38024	78627	84189	77658	70474	62571
	IRR		26%								
	NPV of costs		332696								
	NPV of benefits		400616								
	Net Present Worth		67920								
	B C Ratio		1.2								
I] Repayment schedule											
	Year	Loan disbursed	Loan o/s	Interest @ 10%	Repayment						
					Interest	Prin	Total	Net benefit			
	1	61832	61832	6183	6183	0	6183	0			
	2	31762	93595	9359	9359	0	9359	0			
	3	41581	135176	13518	13518	0	13518	0			
	4	0	135176	13518	13518	9297	22814	15210			
	5	0	125879	12588	12588	34588	47176	31451			
	6	0	91291	9129	9129	41384	50514	33676			
	7	0	49906	4991	4991	49906	46595	31063			

Assumptions

- Rate of Interest at 10%; Loan at 90% of the proposed UC
- 60% of net income reckoned towards payment of interest and repayment of principle
- Repayment in 7 years with 3 years moratorium for principle
- Expenses - 10% increase considered from year 5 onwards
- Income - kept on a conservative basis; no increase considered over the years in price of Pomegranate

Shade net for Flowers and Vegetables



Sl. No	ACTIVITY	Unit cost 2021-22 (Rs)
1	10 R Shade net HOUSE	3,63,100.00
2	20 R Shade net HOUSE	6,27,400.00
3	40 R Shade net HOUSE	11,28,600.00

4. Land Development



Sl. No	Item of investment	Specifications	UNIT COST 2021-22
1	Graded bunding	0.95 SqM cross section, 210 m length per ha	17,270.00
2	Farm bunding		
i	upto 4% field slope light soil	0.80 SqM c/s 200 m/ha	12,800.00
ii	upto 4% field slope medium soil	1 SqM c/s 200 m/ha	15,600.00
iii	upto 4% field slope heavy soil	1.2 SqM c/s 200 m/ha	18,400.00
3	Field drainage for wet lands	2.52 SqM c/s 65 m/ha	29,600.00
4	Half dug out community tanks	M3-10000/ha 10	5,56,000.00
i	Half dug out community tanks (m3 10000)	M3-8000/ha8	4,80,000.00
ii	Half dug out community tanks (m3 10000)	M3-5000/ha5	3,39,000.00
iii	Half dug out community tanks (m3 10000)	M3-2000/ha2	1,75,000.00
iv	Half dug out community tanks (m3 10000)	M3-500/ha 0.5	65,500.00

5	Land levelling & shaping/ha	(a) Slope : upto : 1%	7,700.00
		(b) Slope : 1-2%	11,700.00
		(c) Slope : 2-3%	15,500.00
6	Fencing (running mts)	a. Barbed (1.8 mt.)	145.00

5. Fisheries



SI No	ACTIVITIES	Unit Cost 2021-22 (Rs) / Ha.(WSA)
1	Composite Pond :New	2,06,800.00
2	Composite pond : Renovation	1,76,220.00

3	Scampi Monoculture	3,38,000.00
4	Scampi Poly culture	3,17,240.00
5	Shrimp Farming	4,48,140.00

Unit cost for 1 ha WSA brackish water Shrimp farm:

Capital Cost:

Sr. No	Particulars	Unit	Rate (Rs)	Quantity	Amount (Rs)
1	Pond construction (Mechanical including compaction)	ha			350000
2	Inlet-outlet sluice gates	number	125000	2	250000
3	Biosecurity measures	LS			100000
4	Farm Shed for feed and management	LS			100000
5	Net and boat for feeding	LS			50000
6	Laboratory equipments	LS			35000
7	Pumpset (10 HP) including installation and accessories	Number	60000	1	60000
8	Aerators	number	35000	15	525000
9	Generator	Number	250000		250000
10	Electrification installation	LS			100000
11	Misc	LS			100000
12	Land lease (On Govt Rent)	LS			75000
				Total:	1995000

Operational Cost:

Sr No	PERTICULARS	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1	Land/pond rent	ha	1	150000	150000
2	Lime	Kg	4,000	5.5	22000
3	Ploughing				10,000
4	Bleaching powder 33 % cl	Kg	1,250	41	51250
5	Fertilizer(MOP, Urea, SSP)				7,000
6	Rice bran, Jaggary, Yeast GOC				15,000
7	Cost of feed	Kg	9,000	90	810000
8	Cost of seed (FOR farm in Ratnagiri)	Nos	3,00,000	0.7	210000
9	Probiotics, Minerals, Vit C etc				1,00,000
11	Electricity				1,50,000
12	Technical person	Per Month	6	15000	90000
13	Workers	Mandays	360	350	126000
14	Harvesting	Per kg	6000	10	60000
15	Other maintenance				30,000
	Total for one crop:				18,31,250
	Total for Two crops:				36,62,500

Income:	PERTICULARS	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)
Crop1	Shrimps (30 count)	Kg	5625	450	2531250
Crop2	Shrimps (30 count)	Kg	5625	450	2531250
				Total per year	5062500
Profit:					14,00,000

Operational expenses of one day of trawler

Sr. No.	Component	Quantity	Rate per unit (Rs.)	Amount (Rs.)	10% increase in amount
1	Diesel (Litres)/day	160	80	12800	14080
2	Food Ration for crew per day	7	100	700	770
3	Ice (tonne/day)	0.5	700	350	385
4	Water (lit/per day)	1000	0.8	800	880
4	Wages (First Tandel/day)	1	1000	1000	1100
5	Wages (Second Tandel/day)	1	700	700	770
6	Wages/day	5	400	2000	2200
				18350	20185

Operational expenses of one day of Purse seine

Sr. No.	Component	Quantity	Rate per unit (Rs.)	Amount (Rs.)	10% increase in amount
1	Diesel (Litre/day)	200	80	16000	17600
2	Food Ration for crew per day	27	95	2565	2821
3	Ice (tonne/day)	2	1500	3000	3300
4	Water in litres/day	1000	0.8	800	880
5	Wages (Pagi/day)	1	2000	2000	2200
6	Wages (Tandel/day)	1	1000	1000	1100
7	Wages /day	25	400	10000	11000
				35365	38901

Operational expenses of one day of gill netter

Component	Cylinder				
	One	Two	Three	Four	Six
Diesel/ Petrol	781	1465	1709	2564	4274
Tandel	550	550	550	550	550
Crew (6 nos.)	2400	2400	2400	2400	2400
Ration	363	363	363	363	363
Ice & Water	550	550	550	550	550
Oil	60.5	60.5	60.5	110	220
Total	4705	5389	5633	6537	8357

Fresh fish retailer

Particulars	Unit	Rate	Quantity	Amount (Rs)
Ice	kg	1.5	5092	7638
Fish	Kg	150	2546	381900
Carry bags	Per pack	25	143	3575
Transportation charges	per day	150	235	35250
Market fees	Per day	10	235	2350
			Total Annual	430713

Income:	Rs	2426	235	570110
Net Income				139397
Net profit per day (Rs)				593

Dry fish retailer

Particulars	Unit	Rate	Quantity	Amount (Rs)
Salt	kg	6	1500	9000
Fish	Kg	180	750	135000
Bamboo Baskets	Number	100	8	800
Carry bags	Per pack	25	165	4125
Transportation charges	per day	80	235	18800
Market fees	Per day	10	235	2350
			Total Annual (Rs)	170075

Income:	Unit	Rate (Rs)	Quantity	Amount (Rs)
	Rs	350	750	262500
Net Income				92425
Net profit per day (Rs)				393

Backyard Ornamental fish farming (Rs3 Lakh Capital cost)

Sr No	PERTICULARS	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1	Purchase of fish seed	Numbers	97500	0.45	43875
2	Feed	Kg	124	150	18543
3	Management cost	LS			29,068
4	Electricity charges	LS			16700
5	Communication and transportation	LS			15,000
6	Miscellaneous charges	LS			11,000
7	Live food	LS			0
	Total:				1,34,186

Approx. Income

Gold fish, Angel etc		18000	10	180000
Guppy, molly, platy		60000	3	18000
Total:				360000

Medium Ornamental fish farming (8 Lakhs Capital cost)

Sr No	PERTICULARS	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1	Purchase of Brood stock	Numbers	1220	50	61000
2	Feed	Kg	221	120	26550
3	Medicines, chemicals, probiotics etc	LS			29,068
4	Electricity charges	LS			30000
5	Labour	Mandays	365	350	127750
6	Communication and transportation	LS			30,000
7	Miscellaneous charges	LS			15,000
8	Live food	LS			9000
9	Total:				3,28,368
	Approx. Income				
	All types of Gold fish, Angel, Koi carpt etc		30000	10	300000
	Guppy, molly, platy, Swordtail, flower horn		110000	3	330000
	Total:				630000

Large Ornamental fish farming (25 Lakhs Capital cost)

Sr No	PERTICULARS	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1	Purchase of Brood stock	Numbers	1600	50	80000
2	Feed	Kg	450	120	54000
3	Medicines, chemicals, probiotics etc	LS			54,000
4	Electricity charges	LS			56000
5	Labour	Mandays	730	350	255500
6	Technician cum manager	Mandays	365	500	182500
7	Communication and transportation	LS			1,50,000
8	Miscellaneous charges	LS			15,000
9	Live food	LS			15000
	Total:				8,62,000
	Approx. Income				
	Gold fish, Angel, Discuss, Neon tetra etc		70000	10	700000
	Guppy, molly, platy, swordtail, flower horn		250000	3	750000
	Total:				1450000

Composite Fish Culture: Rs. 4,15,000/-

6. Animal Husbandry



Unit Cost of 2 CB HF Cows

Particulars	Cost (Rs.)
A. Capital Cost	
Cost of 2 animals @ 60,000/- each animal	1,20,000.00
Equipment cost @ 800 per animal	1,600.00
Sub Total	1,21,600.00
B. Working Capital	
Concentrate Feeding cost (for one month) 135 Kg @ Rs. 20/kg	5,400.00
Insurance (@ 5% animal cost)	6,000.00
Sub Total	11,400.00
Total Financial Outlay	1,33,000.00
Margin (15%)	19,950.00
Bank Loan (85%)	1,13,050.00

Unit Cost of Graded Murrah Buffaloes

Particulars	Cost (Rs.)
A. Capital Cost	
Cost of 2 animals @ 70,000/- each animal	1,40,000.00
Equipment cost @ 800 per animal	1,600.00
Sub Total	1,41,600.00
B. Working Capital	
Concentrate Feeding cost (for one month) 135 Kg @ Rs. 20/kg	5,400.00
Insurance (@ 5% animal cost)	7,000.00
Sub Total	12,400.00
Total Outlay	1,54,000.00
Margin	23,100.00
Bank Loan	1,30,900.00

Unit Cost of Goat Rearing (10+1, Osmanabadi/Sangamneri)

S.No	Particulars	Cost (Rs.)
	A. Capital expenditure	
1	Cost of Does (10 animals @ Rs.6000 each)	60,000.00
2	Cost of Buck (1 animal @ Rs 7500)	7,500.00
3	Cost of low-cost night shelter(Buck-20 sq.ft;Doe-10 sq.ft, Rs.80/sq.ft)	9,600.00
3	Equipment including water facility (feeder, water dispenser etc.) @Rs.100/animal	1,100.00
4	Transportation cost @ Rs 200/animal	2,200.00
	Total Capital expenditure	80,400.00
	B. Recurring expenditure (for one time only)	
1	Insurance cost for the adults (5% cost of adults)	2,800.00
2	Veterinary aid including vaccination@Rs.100/animal/year for 11 animals	1,100.00
3	Concentrate feeding (@ 7.5kg/doe/month for 3 months, 8.5 kg/buck/month for 3 months, concentrate cost Rs 18/kg)	4,914.00
	Total Recurring expenditure	8,814.00
	Total Financial Outlay	89,214.00
	Margin Money (15%)	13,350.00
	Bank Loan (85%)	75,650.00

Goat Rearing (10+1, Non-descript)

S.No	Particulars	Cost (Rs.)
	A. Capital expenditure	
1	Cost of Does (10 animals @ Rs.5000 each)	50,000.00
2	Cost of Buck (1 animal @ Rs 6000)	6,000.00
3	Cost of low-cost night shelter(Buck-20 sq.ft;Doe-10 sq.ft, Rs.80/sq.ft)	9,600.00
4	Equipment including water facility (feeder, water dispenser etc.) @Rs.100/animal	1,100.00
5	Transportation cost @ Rs 200/animal	2,200.00
	Total Capital expenditure	68,900.00
	B. Recurring expenditure (for one time only)	
1	Insurance cost for the adults (5% cost of adults)	2,800.00
2	Veterinary aid including vaccination@Rs.100/animal/year for 11 animals	1,100.00
3	Concentrate feeding (@ 7.5kg/doe/month for 3 months, 8.5 kg/buck/month for 3 months, concentrate cost Rs 18/kg)	4,914.00
	Total Recurring expenditure	8,814.00
	Total Financial Outlay	77,714.00
	Margin Money (15%)	11700.00
	Bank Loan (85%)	66,300.00

78,000

Annexure

Unit Cost Fixation for Protected Cultivation of Low Volume High Value Horticultural Crops

Cost components Protected cultivation of high value flower crops - Gerbera (1000 sqm)

A.	No. of plants	5100
	Mortality rate	10%
	Plants for gap filling	510
	Plants Required	5610
	Yield no. of flowers/plant	30
	Flowers/Year	153000
	Cost of seedling Rs.	6
	Sale Price/Flower	3.75
	No of plants/Sqm	6
	Unit Sqm	1000
	Net Sqm	850
	No of plants	5100

B.		Cost Norms	Unit	Units required	Cost
1	Cost of Poly house with drip & fogger system	844	Sqm	1000	844000
2	Cost of Planting Material	30	Plant	5100	153000
3	Plastic Mulching	12800	acre	0.25	3200
4	Land Development - Land leveling, digging of pits, fencing, gates etc.	50000	Acre	0.25	12500
5	Bed Preparation Cost in the cases requiring Soil replacement	100	Sqm	850	85000
6	Rainwater Harvesting Structure	164000		1	
7	Farm Yard Manure - 4 tractor load (2 tonnes / Load) @ Rs. 1500/- per load	1500		4	6000
8	Fertilizers & Chemicals @60/sqm	51000		1	51000
9	Fumigation with formaldehyde - 69 kgs @ Rs. 32/- per kg.	32	kg	69.02	2208.64
10	Labour Skilled	203		365	74095
11	Total				1231003.64
1	Neem Cake				1000
2	Labor Un skilled	101.5		365	37047.5
					38047.5

C. Income and Expenditure (Amt. in Rs)

Sl. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Income					
	Yield Flowers/ Plant	153000	153000	153000	153000	153000
	Less Produce Loss (2%)	149940	149940	149940	149940	149940
	Rate / Flower	3.75	3.75	4.13	4.54	4.99
3	Gross Income (`)	562275	562275	618502.5	680352.75	748388.025
B	Expenditure (Rs)	38047.5	143595	157954.5	173749.95	191124.945
C	Net Income (`)	524227.5	418680	460548	506602.8	557263.08

D : Economics

Amt in Rs

S.No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
i	Investment Cost	1231003.64			608408.64	
ii	Recurring cost	38047.5	1,43,595	1,57,955	1,73,750	1,91,125
iii	Total cost	12,69,051	1,43,595	1,57,955	7,82,159	1,91,125
iv	Income	562275	562275	618502.5	680352.75	748388.025
v	Net Income	-706776	418680	460548	506603	557263
vi	Discount Rate (10%)	0.91	0.83	0.75	0.68	0.62
vii	Discounted Costs	1153683	118674	118674	118674	118674
viii	Discounted Income	511159	464690	464690	464690	464690
	Internal Rate of Return (IRR)	53.70%				
	Benefit Cost Ratio (BCR)	1.46				
	Net Present Value (NPV)	Rs. 7,41,542.35				

E. Loan Details

S.No.	Particulars	Amt (Rs)
a	Unit Cost	1231004
b	Margin Money (10%)	123100
c	Bank Loan (90%)	1107903
d	Rate of Interest	12.0%

F. Repayment Schedule

Amt in Rs

Year	Bank Loan	Loan O/s Beginig of th Year	Loan O/s End of th Year	Surplus	Repayment		Total Outgo	Net Surplus	DSCR
					Interest	Principal			
Year 1	1107903	1107903	886323	524228	132948	221581	354529	169698	1.48
Year 2		886323	664742	418680	106359	221581	327939	90741	1.28
Year 3		664742	443161	460548	79769	221581	301350	159198	1.53
Year 4		443161	221581	506603	53179	221581	274760	231843	1.84
Year 5		221581	0	557263	26590	221581	248170	309093	2.25
Total	1107903			2467321	398845	1107903	1506748	960573	
					DSCR =	1.67			

decide accordingly

- 1 Cost of Polyhouse including irrigation system as per NHB cost norms. (Rs. 844/Sqm).
- 2 Mulching film to be replaced towards the beginning of 5th year.
- 3 Fumigation using formaldehyde to be repeated every fourth year.
- 4 Plastic twine to be replaced every alternate year.
- 5 MNREGA wage rates prevailing in Maharashtra have been adopted.
- 6 Mortality Rate for planting material @ 10%.
- 7 Yield : 30 flowers per plant have been assumed.
- 8 New planting material from fourth year onwards since, plant yields for 3 years
- 9 Sale price @ Rs.3.75 per flower
- 10 Maintenance expenses to increase @ 10% from third year onwards.
- 11 Repair & Maintenance expenses for the structure considered @ ` 50,000/- from 4th year onwards.
- 12 Price to increase @ 10% from 3rd year onwards.
- 13 Packaging & transportation expenses have not been included either in cost of production or price realisation.
- 14 Rate of Interest on Bank Loan @ 12%.
- 15 Margin or farmer's contribution @ 10%.
- 16 Cost of polysheet replacement on every fourth year @ Rs.400000

	Qty Kg	Unit Cost	Cost
Neem Cake	50	20	1000
			1000

CCARI, Goa		Cost Rs.
Labour Skilled	203	74095
Labor Un skilled	101.5	37047.5
Fertilizers & Chemicals @60/sqm	60	51000
Formaldehyde		
Formalin L		1
Water L		10
Soltion required L		850
Formalin required kg		85
1 ltr =X Kg		0.812
1 kg formalin cost Rs		32
Formalin required kg		69.02
Cost Rs.		2208.64

Cost components Protected cultivation of high value vegetable crops - Capsicum (4000 sqm)

No. of plants	16000
Mortality rate	10%
Plants for gap filling	1600
Plants Required	17600
Yield (kg) /plant	3
Yield (kg)/ acre	42000
A grade	37800
B grade	4200
Cost of seedling	6
Rate Rs/Kg	
A grade	40
B grade	20

A.		Cost Norm (₹)	Unit	Units required	Cost
1	Cost of Poly house with drip & fogger system	844	Sqm	4000	3376000
2	Anti-Bird/Anti Hail Nets	35	Sqm		0
3	Cost of Planting Material	7	Plant	17600	123200
4	Plastic Mulching	12800	Acre	1.00	12800
5	Land Development - Land leveling, digging of pits, fencing, gates etc.	50000	Acre	1	50000
6	Bed Preparation Cost in the cases requiring Soil replacement	100	Sqm	3400	340000
7	Rainwater Harvesting Structure	164000		1	
8	Farm Yard Manure - 15 tractor load (2 tonnes / Load) @ Rs. 1500/- per load	22500		1	22500
9	Fertigation, Inorganic fertilizer and Neem cake	14008		1	14008
10	Fumigation with formaldehyde - 1000 kgs @ Rs. 32/- per kg.	32	kg	1000	32000
11	Labour for Soil Preparation, FYM application, Bed Preparation, Mulch Film Laying & planting-15 labourers for 5 days @ Rs. 203 /- per day	75		203	15225
12	Plastic Twines - 400 kg @ Rs.60/- per kg.	60		400	24000
13	Plant protection chemicals	23000			8050
	Total				4017783
1	Plant Protection chemicals from first harvest				14950
2	Labour Cost for maintenance after transplanting & upto first harvest (80 days)- @ 2 labourers @ Rs.203 /- per day	160		203	32480
					47430

B. Income and Expenditure (Amt. in Rs)

Sl. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Income					
1	Yield-Kg/acre					
	A Grade	37800	37800	37800	37800	37800
	B Grade	4200	4200	4200	4200	4200
2	Rate / Kg (₹)					
	A Grade	40.00	40.00	44.00	48.40	53.24
	B Grade	20.00	20.00	22.00	24.20	26.62
3	Gross Income (₹)	1596000	1596000	1755600	1931160	2124276
B	Expenditure (Rs)	47430	257913	283704.3	312074.73	343282.203
C	Net Income (₹)	1548570	1338087	1471896	1619085.27	1780993.797

C : Economics

Amt in Rs

S.No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
i	Investment Cost	4017783		24000	450000	24000
ii	Recurring cost	47430	2,57,913	2,83,704	3,12,075	3,43,282
iii	Total cost	40,65,213	2,57,913	3,07,704	7,62,075	3,67,282
iv	Income	1596000	1596000	1755600	1931160	2124276
v	Net Income	-2469213	1338087	1471896	1619085	1780994
vi	Discount Rate (10%)	0.91	0.83	0.75	0.68	0.62
vii	Discounted Costs	3695648	213151	213151	213151	213151
viii	Discounted Income	1450909	1319008	1319008	1319008	1319008
	Internal Rate of Return (IRR)	47.37%				
	Benefit Cost Ratio (BCR)	1.48				
	Net Present Value (NPV)	Rs. 21,78,689.01				

D. Loan Details

S.No.	Particulars	Amt (Rs)
a	Unit Cost	4017783
b	Margin Money (10%)	401778
c	Bank Loan (90%)	3616005
d	Rate of Interest	12.0%

F. Repayment Schedule

Amt in Rs

Year	Bank Loan	Loan O/s Beginig of th Year	Loan O/s End of th Year	Surplus	Repayment		Total Outgo	Net Surplus	DSCR
					Interest	Principal			
Year 1	3616005	3616005	2892804	1548570	433921	723201	1157122	391448	1.34
Year 2		2892804	2169603	1338087	347136	723201	1070337	267750	1.25
Year 3		2169603	1446402	1471895.7	260352	723201	983553	488342	1.50
Year 4		1446402	723201	1619085	173568	723201	896769	722316	1.81
Year 5		723201	0	1780994	86784	723201	809985	971009	2.20
Total	3616005			7758632	1301762	3616005	4917766	2840865	
					DSCR =	1.58			

G. Assumptions

- 1 Cost of Polyhouse including irrigation system as per NHB cost norms. (Rs. 844/Sqm).
- 2 Mulching film to be replaced towards the beginning of 5th year.
- 2 Fumigation using formaldehyde to be repeated every fourth year.
- 3 Plastic twine to be replaced every alternate year.
- 4 MNREGA wage rates prevailing in Maharashtra have been adopted.
- 5 Mortality Rate for planting material @ 10%.
- 6 Yield Kg/Acre Grade A @ 37800 & Grade B @ 4200
- 7 Sale price Rs/Kg Grade A @ 40 & Grade B @ 20
- 8 Maintenance expenses to increase @ 10% from third year onwards.
- 9 Repair & Maintenance expenses for the structure considered @ Rs. 50,000/- from fourth year onwards.
- 10 Price to increase @ 10% from third year onwards.
- 11 Packaging & transportation expenses have not been included either in cost of production or price realisation.
- 12 Rate of Interest on Bank Loan @ 12%.
- 13 Margin or farmer's contribution @ 10%.
- 15 Labour cost considered @ 50% from second year onwards considering recurring work involved
- 16 Cost of polysheet replacement on every fourth year @ Rs.400000

Fertigation	Req. (Kg)	Rate/Kg	Cost
19:19:19	4	45	180
Pottasium Nitrate	1.5	70	105
Calcium Nitrate	1.5	22	33
Fert Appln (20:25:20 NPK) kg			
calcium ammonium nitrate	80	25	2000
super phosphate	125	50	6250
murate of potash	32	45	1440
Total			10008
Neem Cake	200	20	4000
			14008

Cost components Protected cultivation of high value vegetable crops -Tomato (4000 sqm)

No. of plants	10000
Mortality rate	10%
Plants for gap filling	1000
Plants Required	11000
Yield (kg) /plant	10
Yield (kg)/ acre	100000
Rate/kg	14

A.		Cost Norm (Rs)	Unit	Units Req	Cost
1	Cost of Poly house with drip & fogger system	844	Sqm	4000	3376000
2	Cost of Planting Material and cultivation of High Value vegetables grown in Poly House/Shade net House	4	plnt	11000	44000
3	Plastic Mulching	12800	Acre	1.00	12800
4	Land Development - Land leveling, digging of pits, fencing, gates etc.	50000	Acre	1	50000
5	Bed Preparation Cost in the cases requiring Soil replacement	100	Sqm	4000	400000
6	Rainwater Harvesting Structure	164000		1	
7	Farm Yard Manure - 15 tractor load (2 tonnes / Load) @ Rs. 1500/- per load	22500		1	22500
8	Inorganic fertilizer	14008		1	14008
9	Fumigation with formaldehyde - 1000 kgs @ Rs. 32/- per kg.	32	kg	1000	32000
10	Labour for Soil Preparation, FYM application, Bed Preparation, Mulch Film Laying & planting-15 labourers for 5 days @ Rs. 203 /- per day	75		203	15225
11	Plastic Twines - 400 kg @ Rs.70/- per kg.	70		400	28000
12	Plant protection chemicals	23000			8050
	Total				4002583

1	Plant Protection chemicals from first harvest				14950
2	Labour Cost for maintenance after transplanting & upto first harvest (80 days)- @ 2 labourers @ Rs.203 /- per day	160		203	32480
					47430

B. Income and Expenditure (Amt. in Rs)

Sl. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Income					
1	Yield-Kg/acre	100000	100000	100000	100000	100000
2	Rate / Kg (°)	14	15.4	16.94	18.63	20.50
3	Gross Income (°)	1400000	1540000	1694000	1863400	2049740
B	Expenditure (Rs)	47430	201213	221334.3	243467.73	267814.503
C	Net Income (°)	1352570	1338787	1472665.7	1619932.3	1781925.497

C : Economics

S.No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
i	Investment cost	4002583		28000	482000	28000
ii	Recurring cost	47430	2,01,213	2,21,334	2,43,468	2,67,815
iii	Costs	40,50,013	2,01,213	2,49,334	7,25,468	2,95,815
iv	Income	1400000	1540000	1694000	1863400	2049740
v	Net Income	-2650013	1338787	1472666	1619932	1781925
vi	Discount Rate (10%)	0.91	0.83	0.75	0.68	0.62
vii	Discounted Costs	3681830	166292	166292	166292	166292
viii	Discounted Income	1272727	1272727	1272727	1272727	1272727
	Internal Rate of Return (IRR)	42.66%				
	Benefit Cost Ratio (BCR)	1.46				
	Net Present Value (NPV)	Rs. 20,16,639.42				

D. Loan Details

S.No.	Particulars	Amt (Rs)
a	Unit Cost	₹40,02,583.00
b	Margin Money (10%)	₹4,00,258.30
c	Bank Loan (90%)	₹36,02,324.70
d	Rate of Interest	12.0%

E. Repayment Schedule

Year	Bank Loan	Loan O/s Beginig of th Year	Loan O/s End of th Year	Surplus	Repayment		Amt in Rs		
					Interest	Principal	Total Outgo	Net Surplus	DSCR
Year 1	3602325	3602325	2881860	1352570	432279	720465	199826	1152744	1.17
Year 2		2881860	2161395	1338787	345823	720465	272499	1066288	1.26
Year 3		2161395	1440930	1472666	259367	720465	492833	979832	1.50
Year 4		1440930	720465	1619932	172912	720465	726556	893377	1.81
Year 5		720465	0	1781925	86456	720465	975005	806921	2.21
Total	3602325			7565880	1296837	3602325	2666719	4899162	
					Avg DSCR =	1.59			

G. Assumptions

- 1 Cost of Polyhouse including irrigation system as per NHB cost norms. (Rs. 844/Sqm).
- 2 Mulching film to be replaced towards the beginning of 5th year.
- 2 Fumigation using formaldehyde to be repeated every fourth year.
- 3 Plastic twine to be replaced every alternate year.
- 4 MNREGA wage rates prevailing in Maharashtra have been adopted.
- 5 Mortality Rate for planting material @ 10%.
- 6 Yield 10 kg per plant
- 7 Sale price @ Rs.14 per Kg
- 8 Maintenance expenses to increase @ 10% from three year onwards.
- 9 Repair & Maintenance expenses for the structure considered @ Rs. 50,000/- from fourth year onwards.
- 10 Price to increase @ 10% from third year onwards.
- 11 Packaging & transportation expenses have not been included either in cost of production or price realisation.
- 12 Rate of Interest on Bank Loan @ 12%.
- 13 Margin or farmer's contribution @ 10%.
- 14 Labour cost considered @ 50% from second year onwars considering recurring work involved
- 15 Cost of polysheet replacement on every fourth year @ Rs.400000

Fertigation	Req. (Kg)	Rate/Kg	Cost
19:19:19	4	45	180
Pottasium Nitrate	1.5	70	105
Calcium Nitrate	1.5	22	33
Fert Appln (20:25:20 NPK)	kg		
calcium ammonium nitrate	80	25	2000
super phosphate	125	50	6250
murate of potash	32	45	1440
Total			10008
Neem Cake	200	20	4000
			14008

Cost components Protected cultivation of high value vegetable crops - Cucumber (4000 Sqm)

A.	No. of plants	10000
	Mortality rate	10%
	Plants for gap filling	1000
	Plants Required	11000
	Yield (kg) /plant	3
	Yield (kg)/ acre	30000
	Yield/3 Harvest	90000
	Rate/Kg	18
	Cost per Seed	5

B.		Cost Norm	Unit	Units required	Cost
1	Cost of Poly house with drip & fogger system	844	Sqm	4000	3376000
2	Cost of Planting Material and cultivation of High Value vegetables grown in Poly House/Shade net House	5	Seed	11000	55000
3	Plastic Mulching	12800	Acre	1.00	12800
4	Land Development - Land leveling, digging of pits, fencing, gates etc.	50000	Acre	1	50000
5	Bed Preparation Cost in the cases requiring Soil replacement	100	Sqm	4000	400000
6	Rainwater Harvesting Structure	164000		1	
7	Farm Yard Manure - 15 tractor load (2 tonnes / Load) @ Rs. 1500/- per load	22500		1	22500
8	Inorganic fertilizer	9582		1	9582
9	Fumigation with formaldehyde - 1000 kgs @ Rs. 32/- per kg.	32	kg	1000	32000
10	Labour for Soil Preparation, FYM application, Bed Preparation, Mulch Film Laying & planting-15 labourers for 5 days @ Rs. 203 /- per day	75		203	15225
11	Plastic Twines - 400 kg @ Rs.70/- per kg.	70		400	28000
12	Plant protection chemicals	23000			8050
	Total				4009157
1	Plant Protection chemicals from first harvest				14950
2	Labour Cost for maintenance after transplanting & upto first harvest (80	160		203	32480
					47430

C. Income and Expenditure (Amt. in Rs)

Sl. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Income					
1	Yield-Kg/acre (3 harvest)	90000	90000	90000	90000	90000
2	Rate / Kg (`)	18.0	18.0	19.8	21.8	24.0
3	Gross Income (`)	1620000	1620000	1782000	1960200	2156220
B	Expenditure (Rs)	47430	207787	228565.7	251422.27	276564.497
C	Net Income (`)	1572570	1412213	1553434.3	1708777.73	1879655.5

D : Economics

Amt in Rs

S.No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
i	Investment cost	4009157	0	28000	482000	28000
ii	Recurring cost	47430	2,07,787	2,28,566	2,51,422	2,76,564
iii	Costs	40,56,587	2,07,787	2,56,566	7,33,422	3,04,564
iv	Income	1620000	1620000	1782000	1960200	2156220
v	Net Income	-2436587	1412213	1553434	1708778	1879656
vi	Discount Rate (10%)	0.91	0.83	0.75	0.68	0.62
vii	Discounted Costs	3687806	171725	171725	171725	171725
viii	Discounted Income	1472727	1338843	1338843	1338843	1338843
	Internal Rate of Return (IRR)	52.11%				
	Benefit Cost Ratio (BCR)	1.56				
	Net Present Value (NPV)	Rs. 24,53,393.64				

E. Loan Details

S.No.	Particulars	Amt (Rs)
a	Unit Cost	4009157
b	Margin Money (10%)	400916
c	Bank Loan (90%)	3608241
d	Rate of Interest	12.0%

F. Repayment Schedule

Amt in Rs

Year	Bank Loan	Loan O/s Beginig of th Year	Loan O/s End of th Year	Surplus	Repayment		Total Outgo	Net Surplus	DSCR
					Interest	Principal			
Year 1	3608241	3608241	2886593	1572570	432989	721648	417933	1154637	1.36
Year 2		2886593	2164945	1412213	346391	721648	344174	1068039	1.32
Year 3		2164945	1443297	1553434	259793	721648	571993	981442	1.58
Year 4		1443297	721648	1708778	173196	721648	813934	894844	1.91
Year 5		721648	0	1879656	86598	721648	1071409	808246	2.33
Total	3608241			8126651	1298967	3608241	3219442	4907208	
					Avg DSCR =	1.70			

G. Assumptions

- 1 Cost of Polyhouse including irrigation system as per NHB cost norms. (Rs. 844/Sqm).
- 2 Mulching film to be replaced towards the beginning of 5th year.
- 2 Fumigation using formaldehyde to be repeated every fourth year.
- 3 Plastic twine to be replaced every alternate year.
- 4 MNREGA wage rates prevailing in Maharashtra have been adopted.
- 5 Mortality Rate for planting material @ 10%.
- 6 Yield 3 Kg per plant and 03 harvest from a crop.
- 7 Sale price @ Rs.18/Kg
- 8 Maintenance expenses to increase @ 10% from three year onwards.
- 9 Repair & Maintenance expenses for the structure considered @ Rs. 50,000/- from fourth year onwards.
- 10 Price to increase @ 10% from third year onwards.
- 11 Packaging & transportation expenses have not been included either in cost of production or price realisation.
- 12 Rate of Interest on Bank Loan @ 12%.
- 13 Margin or farmer's contribution @ 10%.
- 14 Labour cost considered @ 50% from second year onwards considering recurring work involved
- 15 Cost of polysheet replacement on every fourth year @ Rs.400000

Fertigation	Req. (Kg)	Rate/Kg	Cost
19:19:19	6	45	270
Pottasium Nitrate	2	70	140
Calcium Nitrate	1	22	22
Fert Appln (20:25:20 NPK)	kg		
Ammonium Sulphate	50	35	1750
super phosphate	50	50	2500
murate of potash	20	45	900
Total			5582
Neem Cake	200	20	4000
			9582

NABARD, Maharashtra Regional Office, Pune

Unit Cost for Plantation and Horticulture Crops

Name of the Fruit Crop:	Grape
Area	1.00 Ha
No. of plants per ha.	2500

Varieties	Thomson Seedless
Spacing	2.70 m x 1.50 m

Sr. No.	Particulars	Units	Qty.	Rate (Rs.)	Year 1	Year 2	Year 3	Year 4	Year 5 onwards	Year 6	Year 7
A	Materials										
1	Planting material including 10% extra for gap filling	No.	2500	10 per dog ridge cutting, Rs. 3 for grafting	32500	3000					
2	Farm Yard Manure		5 Tractors	Rs. 3000	15000	15000	15000	15000	15000	15000	15000
3	Fertilizers										
a	Nitrogen		All together		68125	68125	68125	68125	68125	68125	68125
b	Phosphorus										
c	Potash										
d	Micronutrients	Mn, Zn, Fe, Mg, &B			20000	20000	20000	20000	20000	20000	20000
4	Plant protection chemicals	LS (Rs.)			50000	100000	150000	150000	150000	150000	150000
5	Herbicides	LS (Rs.)	5 lit.	700/ltr	4500	4500	4500	4500	4500	4500	4500
6	Growth regulators - GA3	3 times			0	4000	4000	4000	4000	4000	4000
7	Power/ Fuel for irrigation	LS (Rs.)			2000	2000	2000	2000	2000	2000	2000
8	Tools and implements	LS (Rs.)			2000						
9	Miscellaneous items (Angle, iron wire and labour charges for 'Y' system)	LS (Rs.)			600000						
	Sub Total				794125	216625	263625	263625	263625	263625	263625
B	Operations										
1	Clearing of land	Man days	25	203	5075						
2	Land preparation (soil working)	Man days	25	203	5075						
3	Digging of pits (main & borders)	Man days	JCB		25000						
4	Filling of pits	Man days	JCB		5000						
5	Planting	Man days	35	203	7105						
6	Application of manures and fertilizers	Man days	30	203	6090	10800	12000	12000	12000	12000	12000
7	Irrigation	Man days	Drip		5000	5000	5000	5000	5000	5000	5000
8	Spraying herbicides/ weeding	Man days	30	203	6090	10800	10800	10800	10800	10800	10800
9	Interculture	Man days	10	203	2030	3600	4000	6000	8000	8000	8000
10	Pruning: 2 times/ year				0	20000	20000	20000	20000	20000	20000
11	Training				8000	8000	8000	8000	8000	8000	8000
12	Thinning					6000	10000	10000	10000	10000	10000
10	Harvesting	Rs. 1.60/kg				7500	14000	14000	15000	15000	15000
11	Live hedge planting and maintenance	LS(Rs.)									
12	Miscellaneous expenses	LS(Rs.)				8000	12000	16000	21000	21000	21000
	Sub Total				74465	79700	95800	101800	109800	109800	109800
	Total Cost				868590	296325	359425	365425	373425	373425	373425
C	Yield and Income parameters										
1	Yield	MT/ha			0	12	25	25	25	25	25
2	Farm gate price/ Income	Rs/ MT		35000/MT	0	420000	875000	875000	875000	875000	875000
	Total expenditure				868590	296325	359425	365425	373425	373425	373425
	Net Income				-868590	123675	515575	509575	501575	501575	501575

C : Economics

Amt in Rs

S.No.	Particulars	1 Yr	2 Yr	3 Yr	4 Yr	5 Yr	6 Yr	7 Yr	
i	Costs	868590	296325	359425	365425	373425	373425	373425	
ii	Income	0	420000	875000	875000	875000	875000	875000	
iii	Net Income	-868590	123675	515575	509575	501575	501575	501575	
iv	Discount Rate (15%)	0.87	0.76	0.66	0.57	0.50	0.43	0.38	
v	Discounted Costs	755296	224064	236328	208933	185658	161442	140384	1912105
vi	Discounted Income	0	317580	575327	500284	435030	378287	328945	2535452
	Internal Rate of Return (IRR)	37.84%							
	Benefit Cost Ratio (BCR)	1.33							
	Net Present Value (NPV)	Rs. 6,23,347.26							

D. Loan Details

S.No.	Particulars	Amt (Rs)
a	Unit Cost	1164915
b	Margin Money (10%)	116492
c	Bank Loan (90%)	1048424
d	Rate of Interest	12.0%

E. Repayment Schedule

Amt in Rs

Year	Bank Loan	Loan O/s Beginig of th Year	Loan O/s End of th Year	Surplus	Repayment		Total Outgo	Net Surplus	DSCR
					Interest	Principal			
Year 1	1048424	1048424	1048424	0	125811	0	125811	-125811	
Year 2		1048424	1048424	123675	125811	0	125811	-2136	0.98
Year 3		1048424	838739	515575	125811	209685	335496	180079	1.54
Year 4		838739	629054	509575	100649	209685	310333	199242	1.64
Year 5		629054	419369	501575	75486	209685	285171	216404	1.76
6		419369	209685	501575	50324	209685	260009	241566	1.93
7		209685	0	501575	25162	209685	234847	266728	2.14
Total	1048424			2653550	629054	1048424	1677478	976072	
					DSCR =	1.58			