DETAILED PROJECT REPORT ON

CULTIVATION OF SWEET ORANGE



SUBMITTED BY

Promoter Name: xxxxxxxxxxxxxxx

Project Location:

Prepared By:

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<u>CHAPTER - I</u>

ABOUT THE PROMOTER

PARTICULARS	ABOUT THE PROMOTER
1 Nome -	
I. Name :	****
2. Address :	XXXXXXXXXX
3. Contact Number :	XXXXXXXXXX
4. Date of Birth :	xxxxxxxxxx
5. Educational Qualific	ation : xxxxxx
6. Project Location :	xxxxxxxxxx
7. Constitution :	XXXXXXXXXXX
8. Experience :	xxxxxxxxx

<u>CHAPTER – II</u>

PRODUCTION TECHNOLOGY

Soil and climate

Deep well drained loamy soils are the best for the cultivation of Citrus. The pH of soil should be 6.5 to 7.5 and EC of water less than 1.0. A dry climate with about 50 – 75 cm of rainfall from June – September and with well defined summer and winter season is ideal. Sweet orange comes up well in tropical zone below 500 m. The extreme of temperature are necessary for achieving higher yield.

Season

The ideal season for cultivation of sweet orange is July to September.

Planting material

Budded plants are the best planting materials. (Root Stock - Rangpur lime and rough lemon is mostly preferred).

Preparation of field

Dig pits at 75 cm x 75 cm x 75 cm size at 7 x 7 m spacing. Fill up the pits with top soil and 10 kg of FYM. Plant the budded plants in the centre of the pits and stake it.

Irrigation

Immediately after planting irrigate copiously. Irrigations may be given once in 10 days. Avoid water stagnation near the plant during monsoon and cyclone periods.

Manures and fertilizers per plant

Nitrogen has to be applied in two doses during March and October. However Farm yard manure, Phosphorous and Potash are to be applied in October.

Manures and Fertilizers	l year (kg)	Annual increase (kg)	From 6th year (kg)
FYM	10.000	5.000	30.000
N	0.200	0.100	0.600
P2O5	0.100	0.025	0.200
K2O	0.100	0.040	0.300

Manures are applied in the basin 70 cm away from the trunk and incorporated in the soil. Spray solution containing Sulphate of Zinc (0.5%), Manganese (0.05%), Iron (0.25%), Magnesium (0.5%), Boron (0.1%) and Molybdenum (0.003%) once in 3 months at the time of new flush production. In addition to that apply 50 g in each of Sulphate of Zinc, Manganese and Iron per tree per year.

Plant protection

Leaf miner

Leaf minor can controlled by spraying Dichlorvos 76 WSC at the rate of 1 ml/lit or Dimethoate 30 EC 2 ml/lit or Fenthion 100 EC at the rate of 1 ml/lit or Monocrotophos 36 WSC at the rate of 1.5 ml/lit or 5% of neem seed kernel extract (NSKE) or neem cake extract or neem oil 3%.

Citrus root nematode

Citrus root nematode can be controlled by applying *Pseudomonas fluorescens* at 20g per tree at a depth of 15 cm and 50 cm away from the trunk for the management of slow decline due to the citrus root nematode (*Tylenchulussemipenetrans*). Soil application of Phorate @ 2 g followed by drenching with Metalaxyl + Mancozeb 72 WP @ 0.1% 50 ml/ cutting/ poly bag/ kg of nursery soil for citrus decline.

Little leaf malady

To control little leaf malady, spraying Zinc sulphate at 1.0 per cent solution + Teepol 1 ml/lit of solution at various stages.

- 1. New flush
- 2. One month after
- 3. At flowering and
- 4. Fruit set

After cultivation

As intercultural operations remove the water shoots, rootstock sprouts, dead and diseased shoots. For higher productivity remove all the laterals upto 45 cm from ground level.

Intercropping

Legumes and vegetable crops can be raised as intercrop during pre-bearing age to get additional income.

Harvest

Yield of crop starts bearing from 4th year after planting and the economic yield can be obtained up to 20 years after planting.

Yield

Depending upon the variety and season the yield of crop varies from 20 to 30 t/ha.

<u>CHAPTER – III</u>

MARKET POTENTIAL

Citrus industry in India is the third largest fruit industry of the country after mango and banana. Mrig crop (monsoon blossom) which matures in February-March has great potential for export since arrivals of mandarin fruit in international market are very less during this period. Producers sell fruits to pre-harvest contractors and fetch unremunerative price. Mandarin growers receive better prices in local market in comparison to sale of fruits at orchards. Transportation cost of fruits and payment to commission agents has major share in market cost. Wide variations in prices were found in different local markets. Selection of desired quality fruit as per specific market demand and careful post-harvest handling to retain most of natural qualities and freshness plays a key role in expanding exports of Nagpur mandarin. At present fruit consignments are being exported to neighbouring countries by road without cooling and any other treatments. For distant markets of Europe, Gulf and South East Asia export by refrigerated container ships is imperative considering viability and sustainability for times to come.

The main channels followed for marketing of mandarin fruits include:

- Growers Pre-harvest contractors Commission Agents Retailers Consumers.
- Growers Wholesalers Commission Agents Retailers Consumers.
- Growers Processing Industries Commission Agents Retailers Consumers.
- Growers Retailers Consumers.
- Growers Producer Representatives Exporters.

CHAPTER- IV

ECONOMICS OF THE PROJECT

A. PROJECT PROFILE (Financial)

Sr. No.	PARAMETERS	VALUE
	1 Sweet Orange Variety	Blood Red
	2 Area in acre	6.18
	3 Product	Sweet Orange Fruits
	4 Project Cost	30,08,495
	5 Bank loan	22,56,371
	6 Own Contribution	7,52,124
	7 Financial Indicators	
	BC R	1.06 :1
	N P W 15% (Rs.)	2,51,337
	I R R %	23.92
	Average DSCR	2.0
	8 Interest Rate (% per annum)	12
	9 Repayment	5 years plus moratorium for the first 3 year

B. BASIS & PRESUMPTIONS

- 1 Subsidy receives @40% from N.H.B. treated as F.D. in bank @ 6%. This amount of subsidy is used for repayment of loan.
- 2 Payback period 7 years plus moratorium for the first year.
- 3 Tax on income ignored.
- 4 Promoters share includes self-contribution plus loan from friends and relatives.
- 5 There is no change in Government policies and interest rates in next 8 years.

C. TOTAL COST OF PROJECT

SR. NO	PARTICULAR	UNIT	UNIT RATE(Rs.)	QUANTITY	AMOUNT(Rs.)
1.	Land Development (Free hold land)				
i)	Land Leveling & pit digging	Acre	6.18	25000	1,54,500
ii)	Fencing	Mtr	250	648.9	1,62,225
iii)	Farm Road	Mtr	150	247.2	37,080
	SUB TOTAL – 1				3,53,805
2.	Income from intercropping	acre			
i)	Cost of Open/Tube Well	No	1	250000	2,50,000
ii)	Cost of Water Storage Tank	No	1	150000	1,50,000
iii)	Cost of Pipeline 110mm/4kg	Mtr	250	927	2,31,750
	SUB TOTAL – 2				6,31,750
3.	Micro Irrigation				
i)	Drip/Sprinkler Irrigation	Acre	6.18	25000	1,54,500
	SUB TOTAL – 3				1,54,500
4.	Cost of Cultivation				
a.	Cost of Planting Material				
i) b	Planting Material (Plant desity - No of palnts per acre: 120) Initial cost of inputs	No of Saplings	40	1236	49,440
ii)	Fertilizer and Manure	Acre	6.18	15000	92.700
iii)	Insecticide and Pesticide	Acre	6.18	15000	92,700
iv)	Labour Charges	Acre	6.18	20000	1,23,600
,	SUB TOTAL – 4				3.58.440
5.	Infrastructure				, ,
i)	Cost of Labour Quarter (20'x10' x 2 Nos)	Sq. ft.	750	400	3,00,000
ii)	Cost of Storage Room (20'x10')	Sq. ft.	350	200	70,000
iv)	Pump House (12'x10')	Sq. ft.	250	120	30,000
	SUB TOTAL – 5				4,00,000
6.	Mechanization				
i)	Cost of Sprayer & other farm	No	Ls		5,50,000
	SUB TOTAL – 6				5,50,000
7.	Post Harvest Infrastructure				
i)	Functional Pack House	Sq. ft.	700	800	5,60,000
	SUB TOTAL – 7				5,60,000

30,08,495

D. MEANS OF FINANCE

Sr. No.	Particular	Unit	Quantity		Amount in Rs.
1	Term loan	%	75		22,56,371
2	2 Own contribution	%	25		7,52,124
				TOTAL	30,08,495
3	3 Subsidy entitlement from NHB Income from intercropping	%	40		12,03,398

E. PROJECTED PROFITABILITY

Sr. No.	Particular	Unit	Unit rate in Rs.	Quantity	l year	ll year	III year	IV year	V year	VI year	VII year	VIII year
Ι.	Income											
	Production Capacity	%			0	0	0	60	90	90	90	90
a.	Sales of fruits	Ton	30,000	43	-	-	-	7,78,680	11,68,020	11,68,020	11,68,020	11,68,020
	Production @ 7 tonn acre											
b.	Income from intercropping	acre	35,000	6.18	2,16,300	2,16,300	2,16,300	2,16,300	-	-	-	-
C.	Interest on subsidy @ 6%				72,204	72,204	72,204	72,204	72,204	72,204	72,204	72,204
d.	Subsidy				-	-	-	-	-	-	-	12,03,398
			Т	OTAL (A)	2,88,504	2,88,504	2,88,504	10,67,184	12,40,224	12,40,224	12,40,224	24,43,622
II.	Expenditure											
a.	Mannures & Fertilisers	acre	10,000	6.18	61,800	61,800	61,800	61,800	61,800	61,800	61,800	61,800
b.	Insectisides & Pesticides	acre	10,000	6.18	61,800	61,800	61,800	61,800	61,800	61,800	61,800	61,800
C.	Manpower (For land preparation, planting, Inter -cultural operation, harvesting & other farm operations)	acre	15,000	6.18	92,700	92,700	92,700	92,700	92,700	92,700	92,700	92,700
d.	Packaging, Transportation etc.	acre	5,000	6.18	-	-	-	15,450	30,900	30,900	30,900	30,900
e.	Overhead (Electricity, Water etc.)	acre	5,000	6.18	30,900	30,900	30,900	30,900	30,900	30,900	30,900	30,900
f.	Contengencies	acre	5,000	6.18	30,900	30,900	30,900	30,900	30,900	30,900	30,900	30,900
	5		Т	OTAL (B)	2,78,100	2,78,100	2,78,100	2,93,550	3,09,000	3,09,000	3,09,000	3,09,000
III.	Net Income		то	TAL (A-B)	10,404	10,404	10,404	7,73,634	9,31,224	9,31,224	9,31,224	21,34,622

F. Financial Analysis

Particulars		l year	ll year	III year	IV year	V year	VI year	VII year	VIII year
Capital Costs		30,08,495							
Recurring cost		2,78,100	2,78,100	2,78,100	2,93,550	3,09,000	3,09,000	3,09,000	3,09,000
Total Cost		32,86,595	2,78,100	2,78,100	2,93,550	3,09,000	3,09,000	3,09,000	3,09,000
Benefit		2,88,504	2,88,504	2,88,504	10,67,184	12,40,224	12,40,224	12,40,224	24,43,622
Depreciated value of buildings, fencing etc. @ 10%									6,57,063
Machinery & equipments @ 15%									3,01,878
Closing Stock Value									4,94,400
Total Benefit		2,88,504	2,88,504	2,88,504	10,67,184	12,40,224	12,40,224	12,40,224	38,96,963
Net Benefit		-29,98,091	10,404	10,404	7,73,634	9,31,224	9,31,224	9,31,224	35,87,963
Discounting Factor@ 15%		0.87	0.76	0.66	0.57	0.50	0.43	0.38	0.33
NPV cost at 15% DF		28,59,338	2,11,356	1,83,546	1,67,324	1,54,500	1,32,870	1,17,420	1,01,970
NPV benefits at 15% DF		2,50,998	2,19,263	1,90,413	6,08,295	6,20,112	5,33,296	4,71,285	12,85,998
NPW at 15% DF	2,51,337								
BCR at 15% DF	1.06	:1							
IRR %	23.92								

G. Term Loan Repayment

Rate of interst - % per annum : 12.0

Opening balance of term loan : 22,56,371

Year	Loan Outstanding	Net Income	Principal	Interest F	Fotal Repayment	Net Surplus	DSCR
1	22,56,371	10,404	0	2,70,765	2,70,765	-	-
2	22,56,371	10,404	0	2,70,765	2,70,765	-	-
3	22,56,371	10,404	0	2,70,765	2,70,765	-	-
4	22,56,371	7,73,634	4,51,274	2,70,765	7,22,039	51,595	1.1
5	18,05,097	9,31,224	4,51,274	2,16,612	6,67,886	2,63,338	1.4
6	13,53,823	9,31,224	4,51,274	1,62,459	6,13,733	3,17,491	1.5
7	9,02,549	9,31,224	4,51,274	1,08,306	5,59,580	3,71,644	1.7
8	4,51,274	21,34,622	4,51,274	54,153	5,05,427	16,29,195	4.2
						Avg. DSCR	2.0