

PROJECT REPORT ON
Carrot under Greenhouse



SUBMITTED BY

Promoter Name:

XXXXXXXXXXXXXXXXXXXXXXX

Project Location:

XXXXXXXXXXXXXXXXXXXXXXX

Prepared By:

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CONTENTS

CHAPTER NOS.	PARTICULARS
I.	ABOUT THE PROMOTER
II.	PROJECT DESCRIPTION
III.	MARKET POTENTIAL
IV.	SWOT ANALYSIS
V.	ECONOMICS OF THE PROJECT
	A. Project Profile (Financial)
	B. Basis & Presumptions
	C. Total Cost of Project- Capital Cost Working Capital
	D. Means of Finance
	E. Projected Profitability
	F. Financial Analysis
	G. Term Loan Repayment

CHAPTER - I

ABOUT THE PROMOTER

1. Name of Firm : xxxxxxxxxxxxxxxx
2. Name of Promoter : xxxxxxxxxxxxxxxx
3. Address(Residence) : xxxxxxxxxxxxxxxx
4. Contact Number : xxxxxxxxxxxxxxxx
5. Project Location (Addr.) : xxxxxxxxxxxxxxxx

CHAPTER – II

PROJECT DESCRIPTION

Varieties

Hills

Ooty-1, Early Nantes and New Korda are suitable for cultivation in hilly areas.



Ooty-1

Plains

India Gold, Pusa Kesar and Half Long Danvers can be cultivated.

Soil

Carrot is a cool season crop and will develop a good colour when grown at 15°C to 20°C. The crop needs deep loose loamy soil. It requires a pH ranging from 6.0 to 7.0 for higher production.

Season

Hills

Carrot can be grown throughout the year at an elevation above 1500 metres with assured irrigation. At elevations between 1000 – 1500 metres, it can be grown during July – February.

Plains

Planting can be done during August.

Seed rate

About 4 kg/ha is required.

Preparation of field

Hills

Prepare the land to a fine tilth and form raised beds of one metre breadth and convenient length.

Plains

Two ploughings are given and ridges and furrows are formed at 30 cm spacing.

Sowing

Mark the rows with spacing of 25 – 30 cm apart. Sow the seeds mixed with sand (one part of seed with 4 parts of sand).

Thinning

Hills

A spacing of 10 cm between plants

Plains

A spacing of 5 cm between plants

Irrigation

Irrigation is done once in five days.

Application of fertilizers

30 t/ha FYM and 90:90:90 kg/ha NPK are applied as basal dose and 45:45:45 kg/ha NPK after 45 days of sowing. Apply 25 kg of ZnSO₄/ha as basal.

After cultivation

Spray Fluchloralin 1 lit a.i./ha immediately after sowing the seeds to control weeds or the first weeding to be done on 15th day of sowing. Thinning and earthing up should be given on 30th day.

Splitting of roots is a physiological disorder which is usually seen when there is a sudden increase in soil moisture after prolonged drought. Forking is another phenomenon where in the hard soil does not allow the straight growth of tap root which results in formation of forked root. Forked roots and split roots fetch poor price in market. Keeping the soil moisture at optimum condition will help to keep the soil also loose thereby help to avoid splits and forked roots.

Plant protection

Carrot is not much affected by pests.

Nematode

Application of neem cake @ 1 ton/ha at planting to control root knot nematode, *Meloidogyne* spp.

Diseases

Leaf spot

Leaf spot can be controlled by spraying Mancozeb at 2 g/lit.

CHAPTER – III

MARKET POTENTIAL

Marketing of Carrot is the crucial factor for the success of the project. There is tremendous potential for cultivating Carrot through poly houses. In India, Carrot is grown for its mature fruits and is widely used as salad. It has attained a status of high value crop in India in the recent years and occupies a pride place among vegetables in Indian cuisine, because of its delicate taste and rich content of ascorbic acid and other vitamins and minerals.

Carrot consumption in India is increasing now-a-days due to increasing demand by urban consumers. There is a good demand for export too. The export market needs fruits with longer shelf life, medium size, tetra lobed fruits with an attractive dark colour, mild pungency and good taste. But, the supply is inadequate due to low productivity of the crop. But there is increased demand for Carrot by the consumers and lot of farmers are also showing interest in the cultivation of this crop under protected conditions, as this type is having definite qualitative and quantitative advantage over the traditional cultivation.

CHAPTER – IV

SWOT ANALYSIS

Strengths:

- Domestic market for Carrot is growing.
- The Governments have identified vegetables in polyhouse as a sunrise sector and are providing strong support through various policies and schemes.

WEAKNESS:

- High capital investment
- Demand fluctuate according to different seasons
- Unavailability of skilled manpower
- Incidence of pest and diseases many a times becomes unmanageable.
- Poor marketing linkage and poor market infrastructure.
- Non-availability of adequate quality planting material.
- Poor post-harvest management infrastructure. Due to the perishable nature of the products it's important to have enough transportation and good logistics facilities.
- Negligence to research relating to technical factors

OPPORTUNITY:

- There is tremendous demand for Carrot due to the growing popularity of western life style
- Access to metropolises like Kolkata, Chennai, Mumbai and Delhi etc. and other big cities enhances the possibilities for tapping market of these states.
- Growing consumer base with higher income is expected to add demand in new market
- Availability of new and unique varieties

THREATS:

- Uncertainty in weather conditions and frequent occurrence of natural calamities like cyclone and drought.
- Uncertainty about market stability
- Exploitation by middlemen in the market chain.
- High incidence of pest and diseases.

V. ECONOMICS OF THE PROJECT

A. PROJECT PROFILE (Financial)

Sr. No.	PARAMETERS	VALUE
1	Unit Size in sq.m.	20,000
2	Product	Carrot
3	Cost of the project	2,05,35,500
4	Bank loan	1,54,01,625
5	Margin money	51,33,875
6	Financial Indicators	
	BCR at 15% DF	2.11 :1
	NPW at 15% DF Rs.	2,36,34,538
	I R R %	60
7	Average DSCR	3.2
8	Interest Rate (% per annum)	12
9	Repayment	5 years

B. BASIS & PRESUMPTIONS

Sr. No.	Particular	Unit	Quantity
I. Techno-economic parameters			
	Payback period		5 years
	Rate of interst	%	12
II. Expenditure norms			
	Fertilizer per annum	Rs./ Sq.m.	5
	Pesticides per annum	Rs./ Sq.m.	5
	No of semiskilled workers	Nos.	4
	Cost of one semiskilled worker per annum	Rs.	72,000
II. Income norms			
	Sale price of Carrot	Rs./Kg	30
	Yield per 4000 sqm per crop cycle	Tonn	25
	Crop cycles per pear		3
	Subsidy receives @ 50% from N.H.B. treated as F.D. in bank @ 6%		
	This amount of subsidy is used for repayment of loan		

C. TOTAL COST OF PROJECT

Sr. No.	Particular	Unit	Unit Rate in Rs.	Quantity	Amount in Rs.
	I. Cost of Polyhouse	Sq.m.	800	20,000	1,60,00,000
	II. Initial Planting cost				
	Bed material & preparation	Rs./sq.m.	50	20,000	10,00,000
	Fertilizers & mannures	Rs./sq.m.	5	20,000	1,00,000
	Manpower & supervision	Rs./sq.m.	50	20,000	10,00,000
	Irrigation system (with drip)	Rs./sq.m.	100	20,000	20,00,000
					41,00,000
	III. Cost of grading/pack house	Sq. ft.	650	670	4,35,500
			TOTAL		2,05,35,500

Project Report on Carrot Cultivataion Under Polyhouse

D. MEANS OF FINANCE

Sr. No.	Particular	Unit	Quantity	Amount in Rs.
1	Term loan	%	75	1,54,01,625
2	Own contribution	%	25	51,33,875
			TOTAL	2,05,35,500
3	Subsidy entitlement @ 50% from NHB			1,02,67,750

E. PROJECTION OF PERFORMANCE & PROFITABILITY

Sr. No.	Particular	Unit	Unit rate in Rs.	Quantity	I year	II year	III year	IV year	V year
I. Income									
a.	Sale of Carrot								
	Yield per crop cycle	Tonn			125	125	125	125	125
	Total yield per annum (Crop cycles per anuum- 3)	Tonn			375	375	375	375	375
	Selling price	Rs./kg			30	30	30	30	30
	Total Income	Rs.			1,12,50,000	1,12,50,000	1,12,50,000	1,12,50,000	1,12,50,000
b.	Interest on Subsidy @ 6%				6,16,065	6,16,065	6,16,065	6,16,065	6,16,065
c.	Subsidy				0	0	0	0	1,02,67,750
	TOTAL (B)				1,18,66,065	1,18,66,065	1,18,66,065	1,18,66,065	2,21,33,815
II. Expenditure									
a.	Cost of Raw Materials								
	Planting material for 3 crop cycle	per sq.m.	20	20,000	4,00,000	4,00,000	4,00,000	4,00,000	4,00,000
	Fertilisers	per sq.m.	5	20,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
	Pesticides & fungicides	per sq.m.	5	20,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
b.	Cost of Consumbles								
	Packaging material	per kg	0.50	375	188	188	188	188	188
c.	Cost of Utilities								
	Electricity, Water	per month	2,500	12	30,000	30,000	30,000	30,000	30,000
d.	Cost of Manpower								
	Semiskilled workers	per annum	72,000	4	2,88,000	2,88,000	2,88,000	2,88,000	2,88,000
e.	Overhead Expenses								
	Transportation	per month	1000	12	12,000	12,000	12,000	12,000	12,000
	Marketing expenses 1% of sales				1,12,500	1,12,500	1,12,500	1,12,500	1,12,500
	TOTAL (A)				10,42,688	10,42,688	10,42,688	10,42,688	10,42,688
III Net Income					TOTAL (A+B)	1,08,23,378	1,08,23,378	1,08,23,378	2,10,91,128

F. Financial Analysis

Particulars	I year	II year	III year	IV year	V year
Capital Costs	2,05,35,500				
Recurring cost	10,42,688	10,42,688	10,42,688	10,42,688	10,42,688
Total Cost	2,15,78,188	10,42,688	10,42,688	10,42,688	10,42,688
Benefit	1,18,66,065	1,18,66,065	1,18,66,065	1,18,66,065	2,21,33,815
Depreciated value of buildings @ 10%					2,54,985
Depreciated value of Machinery & equipments @ 15%					77,13,000
Total Benefit	1,18,66,065	1,18,66,065	1,18,66,065	1,18,66,065	3,01,01,800
Net Benefit	-97,12,123	1,08,23,378	1,08,23,378	1,08,23,378	2,90,59,113
Discounting Factor@ 15%	0.87	0.76	0.66	0.57	0.50
NPV cost at 15% DF	1,87,73,023	7,92,443	6,88,174	5,94,332	5,21,344
NPV benefits at 15% DF	1,03,23,477	90,18,209	78,31,603	67,63,657	1,10,66,908
NPW at 15% DF	2,36,34,538				
BCR at 15% DF	2.11 :1				
IRR %	60.33				

Project Report on Carrot Cultivataion Under Polyhouse

G. Term Loan Repayment

Rate of interst - % per annum : 12
 Opening balance of term loan : 1,54,01,625

Year	Loan Outstanding	Gross Surplus	Principal	Interest	Total Repayment	Net Surplus	DSCR
1	1,54,01,625	1,08,23,378	3080325	1848195	4928520	58,94,858	2.2
2	1,23,21,300	1,08,23,378	3080325	1478556	4558881	62,64,497	2.4
3	92,40,975	1,08,23,378	3080325	1108917	4189242	66,34,136	2.6
4	61,60,650	1,08,23,378	3080325	739278	3819603	70,03,775	2.8
5	30,80,325	2,10,91,128	3080325	369639	3449964	1,76,41,164	6.1
						Avg. DSCR	3.2