PROJECT REPORT ON

# Orchids under Polyhouse

**SUBMITTED BY**

Promoter Name:
xxxxxxxxxxxxxx

**Project Location:**
**xxxxxxxxxxxxxxx**

## C O N T E N T S


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## CHAPTER - I

## ABOUT THE PROMOTER

1. Name : xxxxxxxxxxxx
2. Address(Residence) : xxxxxxxxxxxx
3. Contact Number : xxxxxxxxxxx
4. Date of Birth : xxxxxxxxxxx
5. Educational Qualification : xxxxxxxxxxx
6. Project Location (Addr.) : xxxxxxxxxxx
7. Constitution : xxxxxxxxxxx
8. Experience : xxxxxxxxxxx

## CHAPTER – II

## PRODUCTION TECHNOLOGY

**Varieties**
Sharp Purple

**Climate**
75% green shade net with 70 - 80% humidity, 18 - 28ºC temperature and light intensity of 1500-2000 foot candles is ideal for growing this tropical orchid.

**Growing environment:**
75% shade net house with 70- 80% humidity, day temperature of 21 - 29oC and night temperature of 18 to 21oC is ideal for growing this tropical orchid. In high rainfall zones, the shade net house should be provided with a rainshelter.

**Propagation:**
Division of clumps, keikis, back bulbs and tissue culture plants.
Containers and support : perforated earthen pots are ideal and the plants are staked with bamboo sticks.

**Growing media:**
Most common potting mixture consists of charcoal, broken pieces of bricks and tiles, coconut husk and fiber.

**Irrigation:**
Mist or overhead sprinkler to provide water and to maintain humidity.

**Nutrients:**
Foliar application of NPK 20:10:10 @ 0.2% at weekly intervals starting from 30 days after planting.

**Growth regulators**
Foliar application of GA3 50 ppm at bimonthly intervals starting from 30 days after planting.

**Repotting**
Orchids need repotting regularly, usually every two to three years.
1. When the plant grows large and overgrows its container.
2. When the potting material deteriorates
3. When the plant has to be split or divided
4. It is better to repot epiphytes every year.

The best time for repotting is when fresh roots emerge at the bases of the previous year's growth. In monopodial climbers, repotting or division has to be done when new leaf growth shows at the top and there is new root growth.

**Splitting or division of plants**
Plant grown to a large clump with 2 or 3 old canes and new shoots, - divided before repotting. Each division - at least one old cane of two years' growth, one new shoot & some new roots.

**Pests:**
**Snail and slug:** Hand pick and destroy

**Harvest**
Dendrobium flower fully matures only 3 or 4 days after it opens. Flowers are harvested when they are fully open as the flowers cut prior to their maturity will wilt before reaching the wholesaler. Immediately after harvest, the lower 0.75cm of the peduncle is cut off, and the flower is inserted into a fresh tube of water containing preservative. Harvesting the spike when 75 per cent of the flowers are open and remaining buds are unopen.

**Post harvest handling:**

| | | |
|---|---|---|
| Pulsing | : | 8-HQC 500 ppm + SucOrchid 5% for 12 hrs |
| Holding solution | : | AgNO3 25 ppm + 8-HQC 400 ppm + SucOrchid 5% |
| Wrapping material | : | 50 gauge polythene with base of spikes dipped in 8-HQC 25 ppm |

**Yield:**
8 - 10 spikes/plant/year

**Pests:**
**Snail and Slug:**
Hand pick and destroy them immediately.

**Diseases:**
**1. Bacterial soft and Brown rot** (*Ervinia spp.*)
Foliar application with Streptomycin Sulphate @ 0.5 g + Copper Oxy Chloride @ 2 g/l.

**2.Bacterial Brown spot (Acidovorax sp.)**
Foliar application with Streptomycin Sulphate @ 0.5 g + Copper Oxy Chloride @ 2 g/l.

**3. Blackrot (*Pythiumsp*.and *Phytothora sp.)***
Foliar application of Metalaxyl 2 g / lit. (or) Dimethomorph 50% WP 0.5 g / lit.

**4. Anthracnose** – Foliar application of Thiophanate Methyl 2 g / l (or) Difenoconazole 0.5 ml/l

## CHAPTER – III

## MARKET POTENTIAL

Marketing of Orchid flowers is the crucial factor for the success of the project. Orchid is decade old flower for Indian farmers and the farmers are getting good price in the domestic market. The big regulated flower markets are at New Delhi, Banglore, Indore, Badoda, Colcatta, Ahmedabad, Lacknow, Hydrabad, Vijayvada etc. In these markets there is good sales potentiality for Orchids throughout the year.

Cut Flowers that are widely used for attractively decorating various places in different occasions. The demand of flowers increases during Christmas, New year day, Valentine day, which are during winter season. Cut flowers are demand by corporate houses, hotels and restaurants. Weddings, birthday parties, seminars, and other such social gathering events are incomplete without floral decorations.

The small flower stalls on the roadside are playing significant roles in the floriculture revolution. The entrepreneurs may have tie-up with hotels and florist's shops in the cities. However as Orchids is very fragile & perishable in nature, its packaging & transport play important role in its marketing. Steady supply, quality & grading are also associated with successful marketing of the cut flowers.

Emerging newer market concept like online sale, specialized florist outlet, floriculture trade show in coming years expected to see newer dimension in terms of more distant consumer demand & product proposition.

As the demands of Orchids flowers are splendid in future, it is one of the imperative fields to endeavor.

## CHAPTER – IV

## SWOT ANALYSIS

**Strengths:**

- Domestic market for cut flowers, especially for different varieties and colors in Orchids, is growing. Currently floral decoration is the growing social trend. Many are ready to invest on exterior decorations and interior decorations using fresh cut flowers.
- The Governments have identified floriculture as a sunrise sector and are providing strong support through various policies and schemes.
- Provides employment for a large Indian population including women, living in rural territories.

**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 flowers 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
- The demand for flower decorations is increasing rapidly due to lavish arrangement during
  social, political, entertainment & sport event.
- 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.

Project For:Orchid cultivation under Polyhouse

## V. ECONOMICS OF THE PROJECT

### A. PROJECT PROFILE (Financial)

| Sr. No. | PARAMETERS | VALUE |
|---|---|---|
| 1 | Unit Size in sq.m. | 4,000 |
| 2 | Product | Orchid cut flowers |
| 3 | Variety | Sharp Purple |
| 4 | Cost of the project | 68,52,500 |
| 5 | Bank loan | 51,39,375 |
| 6 | Margin money | 17,13,125 |
| 7 | Financial Indicators | |
| | BCR at 15% DF | 1.34 :1 |
| | NPW at 15% DF Rs. | 43,43,053 |
| | I R R % | 34 |
| 8 | Average DSCR | 2.7 |
| 9 | Interest Rate (% per annum) | 12 |
| 10 | Repayment | 7 years including first year of moratorium period |

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## B. BASIS & PRESUMPTIONS

| S.No. | Particular | Unit | Quantity |
|---|---|---|---|
| **I.** | **Techno-economic parameters** | | |
| | Mortality | **%** | 5 |
| | Plant density | plants per sq.m. | 10 |
| | Total no of plants | Nos. | 40000 |
| | Payback period | | 7 years |
| **II.** | **Expenditure norms** | | |
| | Cost of seedling | Rs./ seedling | 50 |
| | Fertilizers & Mannuers per annum | sq ft. | 100 |
| | Insectisides & Pesticides per annum | sq ft. | 100 |
| | No of semiskilled workers | Nos. | 4 |
| | Cost of one semiskilled worker per annum | Rs. | 72,000 |
| **III.** | **Income norms** | | |
| | Sale price of cut flowers | Rs./spike | 13 |
| | Yield of cut flowers | Sprokes/ plant | 8 |

Subsidy receives @ 50% from N.H.B. treated as F.D. in bank @ 6%

This amount of subsidy is used for repayment of loan

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## C. TOTAL COST OF PROJECT

| Sr. No. | Particular | Unit | Unit Rate in Rs. | Quantity | Amount in Rs. |
|---|---|---|---|---|---|
| 1 | **Cost of Polyhouse** | Sq.m. | 850 | 4,000 | 34,00,000 |
| 2 | **Initial cost of cultivation** | | | | |
| | Bed material ( coconut husk) | Rs./sq.m. | 50 | 4,000 | 2,00,000 |
| | Planting material | Rs. | 50 | 40,000 | 20,00,000 |
| | Fertilizers & Mannuers | Rs./sq.m. | 50 | 4,000 | 2,00,000 |
| | Insectisides & Pesticides | Rs./sq.m. | 50 | 4,000 | 2,00,000 |
| | Manpower & supervision | Rs./sq.m. | 30 | 4,000 | 1,20,000 |
| | | | | | 27,20,000 |
| 3 | **Irrigation infrastructure** | | | | |
| | Sprinkler & Shower system | Rs./sq.m. | 75 | 4,000 | 3,00,000 |
| | Tube well | Nos. | 1,50,000 | 1 | 1,50,000 |
| | Water storage tank | Ls. | | | 50,000 |
| | Pipeline | Mtrs. | 150 | 150 | 22,500 |
| | Electric pump & electrification | Nos. | 35,000 | 1 | 35,000 |
| | Generator Set 10 KVA | Nos. | 45,000 | 1 | 45,000 |
| | | | | | 3,02,500 |
| 4 | **Infrastructure** | | | | |
| | Cost of Labour Quarter (20'x10' x 1 Nos ) | Sq. ft. | 200 | 400 | 80,000 |
| 5 | **Mechanization** | | | | |
| | Cost of Sprayer & other equipments | Ls | | | 50,000 |
| 6 | **Post Harvest Infrastructure** | | | | |
| | Grading/packing room | Sq. ft. | 600 | 500 | 3,00,000 |
| | | | **TOTAL** | | **68,52,500** |

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**D. MEANS OF FINANCE**

| Sr. No. | Particular | Unit | Quantity | Amount in Rs. |
|---|---|---|---|---|
| 1 | Term loan | % | 75 | 51,39,375 |
| 2 | Own contribution | % | 25 | 17,13,125 |
| | | | **TOTAL** | **68,52,500** |
| 3 | Subsidy entitlement @ 50% from NHB | | | **34,26,250** |

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## E. PROJECTION OF PERFORMANCE & PROFITABILITY

| S. No. | Particular | Unit | Unit rate in Rs. | Quantity | I year | II year | III year | IV year | V year | VI year | VII year |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Income** | | | | | | | | | | |
| a. | Income from cut flowers | | | | | | | | | | |
| | Production of cut flowers | Spikes | | | 1,28,000 | 3,20,000 | 3,20,000 | 3,20,000 | 3,20,000 | 3,20,000 | 3,20,000 |
| | Selling price | Rs./spike | | | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| | Income | | | | 16,64,000 | 41,60,000 | 41,60,000 | 41,60,000 | 41,60,000 | 41,60,000 | 41,60,000 |
| b. | Interest on Subsidy @ 6% | | | | 2,05,575 | 2,05,575 | 2,05,575 | 2,05,575 | 2,05,575 | 2,05,575 | 0 |
| c. | Subsidy from NHB | | | | 0 | 0 | 0 | 0 | 0 | | 34,26,250 |
| | **Total sale** | **TOTAL (A)** | | | **18,69,575** | **43,65,575** | **43,65,575** | **43,65,575** | **43,65,575** | **43,65,575** | **75,86,250** |
| | **Expenditure** | | | | | | | | | | |
| a. | Cost of Raw Materials | | | | | | | | | | |
| | Fertilisers | per sq.m. | 100 | 4,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 |
| | Pesticides & fungicides | per sq.m. | 100 | 4,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 | 4,00,000 |
| b. | Cost of Consumbles | | | | | | | | | | |
| | Packaging material | per stem | 0.25 | | 32,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 |
| c. | Cost of Utilities | | | | | | | | | | |
| | Electricity, Water | per sq.m. | 25 | 4,000 | 1,00,000 | 1,00,000 | 1,00,000 | 1,00,000 | 1,00,000 | 1,00,000 | 1,00,000 |
| d. | Cost of Manpower | | | | | | | | | | |
| | Semiskilled workers | Nos. | 72,000 | 4 | 2,88,000 | 3,16,800 | 3,48,480 | 3,83,328 | 4,21,661 | 4,63,827 | 5,10,210 |
| e. | Overhead Expenses | | | | | | | | | | |
| | Transportation | per month | 10000 | 12 | 1,20,000 | 1,20,000 | 1,20,000 | 1,20,000 | 1,20,000 | 1,20,000 | 1,20,000 |
| | Marketing expenses 5% of sales | | | | 93,479 | 2,18,279 | 2,18,279 | 2,18,279 | 2,18,279 | 2,18,279 | 3,79,313 |
| | | **TOTAL (B)** | | | **14,33,479** | **16,35,079** | **16,66,759** | **17,01,607** | **17,39,940** | **17,82,106** | **19,89,522** |
| | **Net Income** | **GRAND TOTAL ( A-B)** | | | **4,36,096** | **27,30,496** | **26,98,816** | **26,63,968** | **26,25,635** | **25,83,469** | **55,96,728** |

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**F. Financial Analysis**

| Particulars | | I year | II year | III year | IV year | V year | VI year | VII year |
|---|---|---|---|---|---|---|---|---|
| Capital Costs | | 68,52,500 | | | | | | |
| Recurring cost | | 14,33,479 | 16,35,079 | 16,66,759 | 17,01,607 | 17,39,940 | 17,82,106 | 19,89,522 |
| **Total Cost** | | **82,85,979** | **16,35,079** | **16,66,759** | **17,01,607** | **17,39,940** | **17,82,106** | **19,89,522** |
| Benefit | | 18,69,575 | 43,65,575 | 43,65,575 | 43,65,575 | 43,65,575 | 43,65,575 | 75,86,250 |
| Depreciated value of buildings @ 10% | | | | | | | | 2,22,490 |
| Depreciated value of Plant & Machinery @ 15% | | | | | | | | 16,07,946 |
| **Total Benefit** | | **18,69,575** | **43,65,575** | **43,65,575** | **43,65,575** | **43,65,575** | **43,65,575** | **94,16,686** |
| **Net Benefit** | | **-64,16,404** | **27,30,496** | **26,98,816** | **26,63,968** | **26,25,635** | **25,83,469** | **74,27,164** |
| Discounting Factor@ 15% | | 0.87 | 0.76 | 0.66 | 0.57 | 0.50 | 0.43 | 0.38 |
| NPV cost at 15% DF | | 72,08,802 | 12,42,660 | 11,00,061 | 9,69,916 | 8,69,970 | 7,66,305 | 7,56,018 |
| NPV benefits at 15% DF | | 16,26,530 | 33,17,837 | 28,81,280 | 24,88,378 | 21,82,788 | 18,77,197 | 28,82,775 |
| NPW at 15% DF | **43,43,053** | | | | | | | |
| BCR at 15% DF | **1.34 :1** | | | | | | | |
| IRR % | **33.77** | | | | | | | |

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**G. Term Loan Repayment**

Rate of interst - % per 12

Opening balance of te 51,39,375

| Year | Loan Outstanding | Gross Surplus | Principal | Interest | Total Repayment | Net Surplus | DSCR |
|---|---|---|---|---|---|---|---|
| 1 | 51,39,375 | 4,36,096 | 0 | 6,16,725 | 6,16,725 | 0 | - |
| 2 | 51,39,375 | 27,30,496 | 8,56,563 | 6,16,725 | 14,73,288 | 12,57,209 | 1.9 |
| 3 | 42,82,813 | 26,98,816 | 8,56,563 | 5,13,938 | 13,70,500 | 13,28,316 | 2.0 |
| 4 | 34,26,250 | 26,63,968 | 8,56,563 | 4,11,150 | 12,67,713 | 13,96,256 | 2.1 |
| 5 | 25,69,688 | 26,25,635 | 8,56,563 | 3,08,363 | 11,64,925 | 14,60,710 | 2.3 |
| 6 | 17,13,125 | 25,83,469 | 8,56,563 | 2,05,575 | 10,62,138 | 15,21,332 | 2.4 |
| 7 | 8,56,563 | 55,96,728 | 8,56,563 | 1,02,788 | 9,59,350 | 46,37,378 | 5.8 |
| | | | | | | **Avg. DSCR** | **2.7** |