

DETAILED PROJECT REPORT ON  
CAPSICUM UNDER SHEDNET  
(MODEL- FT 2000)



SUBMITTED BY:

PROMOTER NAME:  
XXXXXXXXXXXXXXXXXXXX

PROJECT LOCATION:  
XXXXXXXXXXXXXXXXXXXX

**Prepared By:**

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**CHAPTER - I**

**ABOUT THE PROMOTER**

| <b>PARTICULARS</b>         | <b>ABOUT THE PROMOTER</b> |
|----------------------------|---------------------------|
| 1. NAME                    | : -XXXXXXXXXXXXX          |
| 2. ADDRESS                 | :-XXXXXXXXXXXXX           |
| 3. CONTACT NO.             | :-XXXXXXXXXXXXX           |
| 4. BIRTH DATE (DD-MM-YYYY) | :-XXXXXXXXXXXXX           |
| 5. EDU. QUALIFICATION      | : -XXXXXXXXXXXXX          |
| 6. PROJECT LOCATION        | :-XXXXXXXXXXXXX           |
| 7. EXPERIENCE              | : - XXXXXXXXXXXXX         |

## **CHAPTER – II**

### **PROJECT DESCRIPTION**

#### **Introduction**

Capsicum (sweet pepper or bell pepper) is one of the important high value vegetable crops cultivated in green houses and to the some extent under shade net house in milder climatic regions. It is rich in vitamin-A, C and minerals.. In addition to the quantum jump in yield, the superior quality and substantial reduction in the use of pesticides, makes it an economic and eco friendly produce to grow capsicum in green houses round the year.

#### **Production Technology**

The success of projects will mainly depend on the adoption of innovative technology for both production and post harvest management. Salient features of the Production Technology that will be followed are outlined below.

#### **Project Location:**

The availability of good quality water, labour and infrastructures facilities such as electricity, road and communication are the factors taken in to account for selection of location.

#### **Nursery and seedling raising**

Seedlings are raised in pro-trays placed inside a net house or Shednet to prevent from insect infestation. Vermicompost and sand @ 1:1 or well decomposed, nutrient enriched and sterilized coco peat is used as the growing medium for nursery production. The pro-trays are initially filled with growing medium and shallow depressions of about 0.5cm depth are made in each cell for seeds sowing. Each cell is sown with one seed and germination starts in 5-7 days of sowing. Seedlings may be sprayed with Acephate (0.75 ml/litre of water) to .."avoid any thrips infection. The seedlings will be ready for planting in 30-35 days after sowing. About 40g seed is required to plant 1000m<sup>2</sup> of Shednetarea.

#### **Shednet Shed:**

The structural material, which will be used for Shednet, is as per RKVY scheme norms.

#### **Growing beds and soil sterilization**

The soil inside the Shednet is loosened to fine tilth and then beds are formed at 75cm width with 45cm height and leaving 45cm working space between two beds. Before bed formation, well decomposed organic manure or Vermicompost along with sand, saw dust is added to soil @ 10kg per m<sup>2</sup>. The beds are drenched with 4% formaldehyde (4litres/m<sup>2</sup> of the bed) and covered with polythene sheet for 3-5 days. Afterwards, the polythene is removed; the beds are raked repeatedly every day to remove the trapped formaldehyde fumes completely prior to planting.

#### **Planting, pruning and training**

The ready seedlings are planted at spacing of 60cm between rows as paired row system by keeping 30 cm between plants on raised beds. Before planting, the seedlings are sprayed with Imidacloprid (0.3mVI) to prevent any sucking pest infestation in the Shednet. Watering the bed is done daily with a rose can till the seedlings get established well. Afterwards drip irrigation is started daily to supply 2-3 litres of water per square meter per day depending on the local weather condition. Capsicum plants are trained to retain 2-4 stems per plant. Pruning is done at weekly interval starting from 15-20 days after transplanting. At every node the tip splits in to two giving rise to one strong branch and one weakbranch which is removed retaining the strong branch. This operation needs to be done once in a week. From 4<sup>th</sup> month onwards the pruning operation will be done once in 10 days.

### **Fertigation**

The total dose of 150 kg each of N: P2O<sub>5</sub>:~O per hectare using water soluble fertilizers is given through fertigation for entire crop growth period of 6-8 months. Water soluble fertilizer supplying 19% each NPK is used at the rate of 2.5-4g/m<sup>2</sup> for every fertigation by giving twice a week starting from third week after planting.

### **Disease and pest control**

Thrips and mites: It is a sucking pest affects most of the Shednetcrops. Minute insects with fringed wings, serious during dry periods (high temperature).Affected leaves show upward (thrips) and downward (mites) curling and it also market value and quality of fruits due to scnippling on the fruit surface. To control thrips, spraying of Acephate (1g/l) or Imidacloprid (0.3mIII) or Fipronil (1mIII) is given.

Bacterial wilt: It is caused by soil bacterium which is naturally present in the acidic soils of coastal area. Sudden wilting of plant is observed due to blockage in the xylem vessels. Drenching with Streptocycline (1.5g/l) is generally practised

### **Harvesting and yield**

Harvesting of capsicum fruits starts from 60 days of planting in case of green colour capsicum, Harvesting continues up to 170-180 days at 10 days interval. Fruits that are mature green are harvested and kept in cool place. Average individual fruit varies from 150-200g.

### **Post Harvest Handling and Storage**

Fruits are graded to size and colour to ensure a uniform attractive pack. Shrink wrapping each fruit and storing at 7-8°C will enhance storability up to 45-60 days.

**CHAPTER – III**

**MARKET POTENTIAL**

Marketing of Capsicum is the crucial factor for the success of the project. There is tremendous potential for cultivating capsicum through Shednet. In India, capsicum is grown for its mature fruits and is widely used in stuffing and baking. It is also used in salad and soup preparation. 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 pleasant flavor coupled with rich content of ascorbic acid and other vitamins and minerals. The mature of Capsicum are eaten raw or widely used in stuffings, bakings, pizza and burger preparations.

Capsicum 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 capsicum 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 Capsicum is growing.
- The Governments have identified Capsicum in Shednet as a sunrise sector and are providing strong support through various policies and schemes.

#### **WEAKNESS:**

- High capital investment
- Demand fluctuate according to different seasons
- Incidence of pest and diseases many a times becomes unmanageable.
- Negligence to research relating to technical factors

#### **OPPORTUNITY:**

- There is tremendous demand for Capsicum due to the growing popularity of western life style
- Access to metropolises like Pune, 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.          | 2,080     |
| 2       | Product                     | Capsicum  |
| 3       | Cost of the project         | 10,88,585 |
| 4       | Bank loan                   | 8,16,439  |
| 5       | Margin money                | 2,72,146  |
| 6       | Subsidy under RKVY          | 4,13,920  |
| 7       | Financial Indicators        |           |
|         | BCR at 15% DF               | 1.29 :1   |
|         | NPW at 15% DF Rs.           | 9,11,947  |
|         | I R R %                     | 56        |
| 8       | Average DSCR                | 2.7       |
| 9       | Interest Rate (% per annum) | 12.0      |
| 10      | Repayment                   | 5 years   |



## B. BASIS & PRESUMPTIONS

| Sr. No.                              | Particular  | Unit             | Quantity |
|--------------------------------------|---|------------------|----------|
| <b>I. Techno-economic parameters</b> |   |                  |          |
|                                      | Mortality   | %                | 5        |
|                                      | Plant density   | plants per sq.m. | 3        |
|                                      | Total no of plants per cycle                                  | Nos.             | 6240     |
|                                      | Total nos of crop cycle per annum                             | Nos.             | 2        |
|                                      | Payback period  | Years            | 5        |
| <b>II. Expenditure norms</b>         |   |                  |          |
|                                      | Cost of seedling  | Rs./ Sq.M.       | 15       |
|                                      | Fertilizer per annum  | Rs./ Sq.M.       | 50       |
|                                      | Insectisides & Pesticides per annum                           | Rs./ Sq.M.       | 50       |
| <b>II. Income norms</b>              |   |                  |          |
|                                      | Sale price of Capsicum  | Rs./Kg           | 30       |
|                                      | Yield per plant per annum                                     | Kg.              | 3        |
|                                      | Subsidy receives @ 50% from RKVY treated as F.D. in bank @ 6% |                  |          |
|                                      | This amount of subsidy is used for repayment of loan          |                  |          |

**C. TOTAL COST OF PROJECT**

| Sr. No                                | Description   | Unit      | Qty | Unit Rate's<br>in Rs. | Amount           |
|---------------------------------------|---|-----------|-----|-----------------------|------------------|
| <b>1. Land &amp; Land Development</b> |   |           |     |                       |                  |
|                                       | i) Land   |           |     |                       | Own              |
|                                       | ii) Land development  | Lumpsum   |     |                       | 25,000           |
|                                       | <b>SUB TOTAL – 1</b>  |           |     |                       | <b>25,000</b>    |
| <b>2 Plant &amp; Machinery</b>        |   |           |     |                       |                  |
|                                       | i.) Cost of Shed net structure including shed net, Insect net etc. ( Model- FTSNH-3.25M-2000) | Sq.m.     | 294 | 2,080                 | 6,11,520         |
|                                       | ii) Cost of Sprayer & other farm equipments   | Ls        |     |                       | 25,000           |
|                                       | <b>SUB TOTAL – 2</b>  |           |     |                       | <b>6,36,520</b>  |
| <b>3. Micro Irrigation</b>            |   |           |     |                       |                  |
|                                       | i) Drip Irrigation system including Fogging system, control head etc.                         | Sq. Mtr.  | 104 | 2,080                 | 2,16,320         |
|                                       | <b>SUB TOTAL – 3</b>  |           |     |                       | <b>2,16,320</b>  |
| <b>4. Initial Planting cost</b>       |   |           |     |                       |                  |
|                                       | i) Cost of Planting Material  | Rs./sq.m. | 15  | 2,080                 | 31,200           |
|                                       | ii) Bed material & preparation  | Rs./sq.m. | 20  | 2,080                 | 41,600           |
|                                       | iii) Initial cost of inputs   |           |     |                       |                  |
|                                       | a. Fertilizers & manures  | Rs./sq.m. | 10  | 2,080                 | 20,800           |
|                                       | b. Insecticide and Pesticide  | Rs./sq.m. | 10  | 2,080                 | 20,800           |
|                                       | <b>SUB TOTAL – 4</b>  |           |     |                       | <b>1,14,400</b>  |
| <b>5. Infrastructure</b>              |   |           |     |                       |                  |
|                                       | i) Cost of store room (20'x15' x 1 Nos )  | Sq. ft.   | 250 | 300                   | 75,000           |
|                                       | <b>SUB TOTAL – 5</b>  |           |     |                       | <b>75,000</b>    |
| <b>6. Miscellaneous Exp.</b>          |   |           |     |                       |                  |
|                                       | Project Formulation, Consultancy, Contingencies   | %         | 2   |                       | 21,345           |
|                                       | <b>SUB TOTAL – 6</b>  |           |     |                       | <b>21,345</b>    |
| <b>GRAND TOTAL</b>                    |   |           |     |                       | <b>10,88,585</b> |

#### D. MEANS OF FINANCE

| Sr. No.      | Particular  | Unit | Quantity | Amount           |
|--------------|---|------|----------|------------------|
| 1            | Term loan   | %    | 75       | 8,16,439         |
| 2            | Own contribution                                      | %    | 25       | 2,72,146         |
| <b>TOTAL</b> |   |      |          | <b>10,88,585</b> |
| 3            | Cost considered for entitlement of subsidy under RKVY |      |          | 8,27,840         |
| 4            | Subsidy entitlement @ 50%                             |      |          | <b>4,13,920</b>  |

### E. PROJECTION OF PERFORMANCE & PROFITABILITY

| Sr. No.                  | Particular  | Unit      | Unit rate in Rs. | Quantity         | I year             | II year          | III year         | IV year          | V year           |                 |
|--------------------------|---|-----------|------------------|------------------|--------------------|------------------|------------------|------------------|------------------|-----------------|
| <b>I. Income</b>         |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Production of Capsicum per cycle  | Kg        |                  |                  | 18,720             | 18,720           | 18,720           | 18,720           | 18,720           |                 |
|                          | Total production per annum<br>(No of production cycles per annum-<br>2nos.) | Kg        |                  |                  | 37,440             | 37,440           | 37,440           | 37,440           | 37,440           |                 |
|                          | Sales of Capsicum<br>(' @ Rs. 30 per kg.)                                   | Rs.       |                  |                  | 11,23,200          | 11,23,200        | 11,23,200        | 11,23,200        | 11,23,200        |                 |
|                          | Interest on Subsidy @ 6%  |           |                  |                  | 24,835             | 24,835           | 24,835           | 24,835           | 24,835           |                 |
|                          | Subsidy under RKVY  |           |                  |                  | 0                  | 0                | 0                | 0                | 4,13,920         |                 |
|                          |   |           |                  | <b>TOTAL (A)</b> | <b>11,48,035</b>   | <b>11,48,035</b> | <b>11,48,035</b> | <b>11,48,035</b> | <b>15,61,955</b> |                 |
| <b>II. Expenditure</b>   |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
| a. Cost of Raw Materials |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Fertilisers   | per sq.m. | 50               | 2,080            | 1,04,000           | 1,04,000         | 1,04,000         | 1,04,000         | 1,04,000         |                 |
|                          | Pesticides & fungicides   | per sq.m. | 50               | 2,080            | 1,04,000           | 1,04,000         | 1,04,000         | 1,04,000         | 1,04,000         |                 |
| b. Cost of Consumbles    |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Packaging material  | per kg    | 0.50             |                  | 18,720             | 18,720           | 18,720           | 18,720           | 18,720           |                 |
| c. Cost of Utilities     |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Electricity, Water  | per sq.m. | 25               | 2,080            | 52,000             | 52,000           | 52,000           | 52,000           | 52,000           |                 |
| d. Cost of Manpower      |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Semiskilled workers   | per annum | 96,000           | 2                | 1,92,000           | 1,92,000         | 1,92,000         | 1,92,000         | 1,92,000         |                 |
| e. Overhead Expenses     |   |           |                  |                  |                    |                  |                  |                  |                  |                 |
|                          | Transportation  | per month | 5000             | 12               | 60,000             | 60,000           | 60,000           | 60,000           | 60,000           |                 |
|                          | Marketing expenses 1% of sales  |           |                  |                  | 11,232             | 11,232           | 11,232           | 11,232           | 11,232           |                 |
|                          | Planting and bed preparation  |           |                  |                  | 1,14,400           | 1,14,400         | 1,14,400         | 1,14,400         | 1,14,400         |                 |
|                          |   |           |                  | <b>TOTAL (B)</b> | <b>6,56,352</b>    | <b>6,56,352</b>  | <b>6,56,352</b>  | <b>6,56,352</b>  | <b>6,56,352</b>  |                 |
| <b>III. Net Income</b>   |   |           |                  |                  | <b>TOTAL (A-B)</b> | <b>4,91,683</b>  | <b>4,91,683</b>  | <b>4,91,683</b>  | <b>4,91,683</b>  | <b>9,05,603</b> |

## E. Financial Analysis

| Particulars                                  | I year           | II year          | III year         | IV year          | V year           |
|--|------------------|------------------|------------------|------------------|------------------|
| Capital Costs                                | 10,88,585        |                  |                  |                  |                  |
| Recurring cost                               | 6,56,352         | 6,56,352         | 6,56,352         | 6,56,352         | 6,56,352         |
| <b>Total Cost</b>                            | <b>17,44,937</b> | <b>6,56,352</b>  | <b>6,56,352</b>  | <b>6,56,352</b>  | <b>6,56,352</b>  |
| Benefit                                      | 11,48,035        | 11,48,035        | 11,48,035        | 11,48,035        | 15,61,955        |
| Depreciated value of buildings @ 10%         |                  |                  |                  |                  | 43,913           |
| Depreciated value of plant & machinery @ 15% |                  |                  |                  |                  | 3,65,442         |
| <b>Total Benefit</b>                         | <b>11,48,035</b> | <b>11,48,035</b> | <b>11,48,035</b> | <b>11,48,035</b> | <b>19,71,310</b> |
| <b>Net Benefit</b>                           | <b>-5,96,902</b> | <b>4,91,683</b>  | <b>4,91,683</b>  | <b>4,91,683</b>  | <b>13,14,958</b> |
| Discounting Factor@ 15%                      | 0.87             | 0.76             | 0.66             | 0.57             | 0.50             |
| NPV cost at 15% DF                           | 15,18,095        | 4,98,828         | 4,33,192         | 3,74,121         | 3,28,176         |
| NPV benefits at 15% DF                       | 9,98,791         | 8,72,507         | 7,57,703         | 6,54,380         | 7,80,978         |
| NPW at 15% DF                                | <b>9,11,947</b>  |                  |                  |                  |                  |
| BCR at 15% DF                                | <b>1.29 :1</b>   |                  |                  |                  |                  |
| IRR %  | <b>55.66</b>     |                  |                  |                  |                  |

### G. Term Loan Repayment

Rate of interest - % per annum : 12.0  
 Opening balance of term loan : 8,16,439

| Year | Loan Outstanding | Gross Surplus | Principal | Interest | Total Repayment | Net Surplus      | DSCR       |
|------|------------------|---------------|-----------|----------|-----------------|------------------|------------|
| 1    | 8,16,439         | 4,91,683      | 1,63,288  | 97,973   | 2,61,260        | 2,30,423         | 1.9        |
| 2    | 6,53,151         | 4,91,683      | 1,63,288  | 78,378   | 2,41,666        | 2,50,017         | 2.0        |
| 3    | 4,89,863         | 4,91,683      | 1,63,288  | 58,784   | 2,22,071        | 2,69,612         | 2.2        |
| 4    | 3,26,575         | 4,91,683      | 1,63,288  | 39,189   | 2,02,477        | 2,89,206         | 2.4        |
| 5    | 1,63,288         | 9,05,603      | 1,63,288  | 19,595   | 1,82,882        | 7,22,721         | 5.0        |
|      |                  |               |           |          |                 | <b>Avg. DSCR</b> | <b>2.7</b> |