

# Economic Analysis of Production of Gerbera (Cut Flower) Under Protected Condition in Amravati District

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**Abstract:-** The present study is an attempt to evaluate the “Economic analysis of production of Gerbera (cut flower) under protected condition in Amravati district”. Data used were pertaining to the period Jan. 2016 to Dec. 2016 From Amravati district, twenty four poly house of 560 m<sup>2</sup> and 1008 m<sup>2</sup> sizes were selected.

It was observed that the total cost estimated for two year was i.e. Rs. 651956.3 for Gerbera production. Net return from cut flower production was accounted to be Rs. 205512.7 for two years. The total farm business income worked out to be Rs. 444330.3 for two years. The total family labour income was accounted to be Rs. 219013.5 for Gerbera. The total farm investment income as estimated to be Rs. 430829.4 for Gerbera. The total input- output ratio of first and second year profit at cost ‘C’ was 1:1.10 and 1:1.68 for Gerbera production respectively.

**Keywords:-** Cut-flower, Cost, Returns, Profit.

## I. INTRODUCTION

Flowers are inseparable from the social fabric of human life. Flowers being adorable creation of God, befits all occasions, be it at birth, marriage or death. In the past, flowers were not of much economic importance. One would grow flowers to fulfil his or her aesthetic desire. At times, flowers were offered for sale to meet the special requirements of people. With the passage of time drastic changes have come about in the life style of people leading to commercialized cultivation of flowers. Today, flower plants are no longer meant for only window garden but play an important role in the decoration of the living houses and office establishments. The science and art of commercial floriculture has been recognized as an economic activity with the potential for generating employment and earning valuable foreign exchange. In several countries of the world, floricultural products are amongst the main export items of agricultural origin. For any country to diversify its agricultural base geared towards export, the ornamental crop industry presents one of the most interesting and viable options. The aesthetic value of flowers and ornamental plants, their use in social events, overall satisfaction in working with them and high income

generating power are attracting modern entrepreneurs to invest money in the floriculture industry.

The recent liberalization policy of the Government of India has given Phillip to commercialized agriculture particularly horticultural crops. Growing of flowers is in vogue in India since long time. Nevertheless, growing of cut-flowers has emerged as an important industry mainly to cater to the needs of the demand in the overseas market. It is being viewed as a high growth industry in our economy. There is a tremendous transformation in our floriculture sector mainly due to the entry of corporate who are producing cut-flowers to meet the emerging demand in the developed countries for floricultural products. The Government of India has also identified floriculture as a niche area with vast potential for export. There are many incentives given by the Government for setting up of floriculture units as Export oriented units.

The specific objective has been undertaken as follows:  
➤ To study the economics of cut flower production.

## II. METHODOLOGY

The object of any scientific investigation is to draw the useful conclusion in the light of objectives of study. It is essential to the investigator to adopt appropriate method and procedure, keeping this in view, this chapter has denoted to explain the methodology adopted to fulfil the objective of study. The present investigation is undertaken to study the “Economic Analysis of Production and Marketing of Cut Flower under Protected Condition in Amravati district”.

❖ *Cost of cultivation of cut flowers worked out by using following consideration.*

➤ *Cost ‘A’*

It is the actual paid out cost by the cultivators in the form of cash.

➤ *Cost ‘B’*

It was calculated by adding the interest on fixed capital @ 10 per cent per annum and rental value of owned land @ 1/6<sup>th</sup> of gross produce - Land revenue.

➤ *Cost 'C'*

It is the total cost of production which included all the cost items, actual as well as imputed. The imputed value of own labour is to be imputed and added to cost 'B' to work out cost 'C'.

Cost 'C' = Cost 'B' + imputed value of family labours.

➤ *Net profit:*

Net profit is calculated by subtracting annual total cost of cut flower production from annual total return derived from the respective cut flower enterprise.

➤ *Farm business income*

This is return to farm operator for his management, family labour contribution and investment on land and fixed capital.

Farm business income = Gross income – Cost C

➤ *Family labour income*

These indicate the surplus of gross income over cost B. This is a measure of return cut- flower cultivation to family labour.

Family labour income = Gross income - Cost B

➤ *Farm investment income*

This measure of income indicates the returns to the capital in the farm and is computed from the following equation.

Farm investment income = Farm business income – Imputed value of family labour.

➤ *Input output ratio*

Input output ratio will be worked out by dividing annual total return returned received from the cut flowers by its annual total cost of production.

### III. RESULTS AND DISCUSSION

Cost structure of Gerbera of cut flower production in poly house per unit area (560m<sup>2</sup>).

| Sr. No. | Particular   | Gerbera             |                     |                     |
|---------|--|---------------------|---------------------|---------------------|
|         |  | I year              | II year             | Total               |
| 1.      | Hired human labour   | 41872.25<br>(10.15) | 41498.75<br>(17.33) | 83371<br>(12.78)    |
| 2.      | Planting material  | 117250<br>(28.42)   | -                   | 117250<br>(17.33)   |
| 3.      | Farm yard manure   | 20433.33<br>(4.95)  | -                   | 20433.33<br>(3.13)  |
| 4.      | Rice husk  | 1860<br>(0.45)      | 1860<br>(0.78)      | 3720<br>(0.57)      |
| 5.      | Fertilizer   | 26596.08<br>(6.45)  | 23069.42<br>(9.64)  | 49665.5<br>(7.61)   |
| 6.      | Plant protection charges   | 5472.58<br>(1.33)   | 8335.08<br>(3.48)   | 13807.67<br>(2.11)  |
| 7.      | Power charges  | 3525.08<br>(0.85)   | 3525.08<br>(1.47)   | 7050.17<br>(1.08)   |
| 8.      | Land revenue   | 2.19<br>(0.0005)    | 2.19<br>(0.0009)    | 4.38<br>(0.0006)    |
| 9.      | Depreciation   | 26450.39<br>(6.41)  | 26450.39<br>(11.05) | 52900.77<br>(8.11)  |
| 10.     | Transportation charges   | 14326.17<br>(3.47)  | 13287.08<br>(5.55)  | 26613.25<br>(4.23)  |
| 11.     | Other charges  | 290.08<br>(0.07)    | 209.75<br>(0.09)    | 499.83<br>(0.76)    |
|         | <b>Working Capital(W.C.)</b>   | 258078.2<br>(62.55) | 118237.7<br>(49.39) | 376315.9<br>(57.73) |
| 12.     | Interest on W.C. @ 12 % / annum for the crop duration                  | 30969.38<br>(7.52)  | 14188.53<br>(2.44)  | 45157.91<br>(5.63)  |
|         | <b>Cost 'A'</b>  | 289047.5<br>(70.07) | 124091.2<br>(51.83) | 413138.7<br>(63.56) |
| 13.     | Rental value of land(1/6 <sup>th</sup> ) of gross produce land revenue | 75678.81<br>(18.34) | 67228.31<br>(28.08) | 142907.1<br>(21.92) |

|     |  |                      |                     |                      |
|-----|--|----------------------|---------------------|----------------------|
| 14. | Interest on fixed capital @ 10% of the fixed capital | 41204.82<br>(9.99)   | 41204.82<br>(17.21) | 82409.64<br>(12.64)  |
|     | <b>Cost 'B'</b>                                      | 405931.2<br>(98.40)  | 232524.4<br>(97.12) | 638455.6<br>(97.92)  |
| 15. | Family labour income                                 | 6609.16<br>(1.60)    | 6891.66<br>(2.88)   | 13500.83<br>(2.08)   |
|     | <b>Cost 'C'</b>                                      | 412540.3<br>(100.00) | 239416<br>(100.00)  | 651956.3<br>(100.00) |

Note: Figures in parentheses indicate percentage to the total cost.

Table 1:- Cost of cultivation of Gerbera under poly house (Rs./560 m<sup>2</sup>).

The profitability of any enterprise depends upon income generating capacity and cost structure. For every analytical consideration, total costs are discussed under three categories cost 'A', cost 'B' and cost 'C'. Cost 'A' includes expenses on labour to perform different cultural practices and expenses incurred on material inputs viz. fertilizers, plant protection chemicals, power charges, interest on working capital etc. Cost 'B' includes interest on fixed capital and rental value of land. Cost 'C' includes the family labour.

Gerbera is economically beneficially crop of two years. The data presented in Table 1 clearly state that the total cost per unit area under protective condition is estimated Rs. 651956.3 for two years taken together on an average the total cost of cultivation is higher in first amounting Rs. 412540.3 as compared to second year Rs. 239416.00 because in the second year the planting material and farm yard manure is not included in the cost of cultivation.

Cost of cultivation of first year includes different items of which the major cost item such as hired human labour was Rs. 41872.25 (10.15 per cent), planting material was Rs. 117250 (28.42 per cent), FYM was Rs. 20433.33 (4.95 per cent), rice husk was Rs. 1860 (0.45 per cent), fertilizer was Rs. 26596.08 (6.45 per cent), plant protection was Rs. 5472.58 (1.33 per cent), power charges was Rs. 3525.08 (0.85 per cent), land revenue was Rs. 2.19 (0.0005 per cent), depreciation was Rs. 26450 (6.41 per cent), transportation charges was Rs.14326.17 (3.47 per cent) and other charges was Rs. 290.08 (0.07 per cent), hence the working capital was Rs. 258072 (62.55 per cent ) and interest on working capital was Rs. 30969.38 (7.52 per cent ).

The cost 'B' for first year includes the total cost 'A' was Rs. 289047.5 (70.07 per cent), rental value of land was Rs. 75678.81 (18.34 per cent) and interest on fixed capital was Rs. 41204.82 (9.99 per cent).

The cost 'C' for first year includes the cost 'B' was Rs. 405931.2 (98.40 per cent) and family labour was Rs. 6609.16 (1.60 per cent). Hence the cost 'C' was Rs. 412540.3.

Cost of cultivation of second year includes different items of which the major cost item such as hired human labour was Rs. 41498.75 (17.33 per cent), rice husk was Rs. 1860 (0.78 per cent), fertilizer was Rs. 23069.42 (9.64 per cent), plant protection was Rs. 8335.08 (3.48 per cent), power charges was Rs. 3525.08 (1.47 per cent), land revenue was Rs. 2.19 (0.0009 per cent), depreciation was Rs. 26450.39 (11.05 per cent), transportation charges was Rs. 13287.08 (5.55 per cent) and other charges was Rs. 209.75 (0.09 per cent), hence the working capital was Rs. 118237.7 (49.39 per cent ) and interest on working capital was Rs. 14188.53 (2.44 per cent ).

The cost 'B' for second year includes the cost 'A' was Rs. 124091.2 (51.83 per cent), rental value of land was Rs. 67228.31 (28.08 per cent) and interest on fixed capital was Rs. 41204.82 (17.21 per cent).

The cost 'C' for second year includes the cost 'B' was Rs. 232524.4 (97.12 per cent) and family labour was Rs. 6891.66 (2.88 per cent). Hence the cost 'C' was Rs. 239416.

The cost of cultivation of first and second year includes different items of which the major cost item such as hired human labour was Rs. 83371 (12.78 per cent), planting material was Rs. 117250 (17.33 per cent), FYM was Rs. 20433.33 (3.13 per cent), rice husk was Rs. 3720 (0.57 per cent), fertilizer was Rs. 49665.5 (7.61 per cent), plant protection was Rs. 13807.67 (2.11 per cent), power charges was Rs. 7050.17 (1.08 per cent), land revenue was Rs. 4.38 (0.0006 per cent), depreciation was Rs. 52900.77 (8.11 per cent), transportation charges was Rs. 26613.25 (4.23 per cent) and other charges was Rs. 499.83 (0.76 per cent), hence the working capital was Rs. 376315.9 (57.73 per cent) and interest on working capital was Rs. 45157.91 (5.63 per cent ).

The cost 'B' for first and second year includes the cost 'A' was Rs. 413138.7 (63.56 per cent), rental value of land was Rs. 142907.1 (21.92 per cent) and interest on fixed capital was Rs. 82409.64 (12.64 per cent).

The cost 'C' for first and second year includes the cost 'B' was Rs. 638455.6 (97.93 per cent) and family labour was Rs. 13500.83 (2.07 per cent). Hence the cost 'C' was Rs. 651956.3.

| Sr. No. | Particulars | Unit | Gerbera  |          |          |
|---------|-------------|------|----------|----------|----------|
|         |             |      | I Year   | II Year  | Total    |
| 1.      | Cost 'A'    | No.  | 289047.5 | 124091.2 | 413138.7 |
| 2.      | Cost 'B'    | No.  | 405931.2 | 232524.3 | 638455.5 |
| 3.      | Cost 'C'    | No.  | 412540.3 | 239416   | 651956.3 |

Table 2:- Cost of cultivation of poly house enterprises according to cost concepts.

The cost concepts consideration for Gerbera read as follows. The total Cost 'A' of Gerbera amounted to Rs. 413138.7, for its life period inclusive of Rs. 289047.5 and Rs. 124091.2, respectively during first and second year. The Cost 'B' Rs. 638455.7 which included Rs. 405931.4 and Rs. 232524.4 in successive two years. The total Cost 'C' estimated amounted to Rs. 651956.3 which was the total of Rs. 412540.3 and Rs. 239416.00 during first and second year respectively.

| Sr. No. | Particulars            | Gerbera  |          |          |
|---------|------------------------|----------|----------|----------|
|         |                        | I Year   | II Year  | Total    |
| 1.      | Gross returns          | 454086   | 403383   | 857469   |
| 2.      | Net returns            | 41545.67 | 163967   | 205512.7 |
| 3.      | Farm business income   | 165038.5 | 279291.8 | 444330.3 |
| 4.      | Family labour income   | 48154.84 | 170858.7 | 219013.5 |
| 5.      | Farm investment income | 158429.3 | 272400.1 | 430829.4 |
| 6.      | Output input ratio     | 1.10     | 1.68     | 2.78     |

Table 3:- Measures of farm income

An important element in the farm business organization relates to the farmer in which resources are allowed because a measuring stick is necessary to provide guide lines and standard for appraising the use of various resources. To achieve this objective, various income measures viz. gross income, farm investment income, family labour income, farm investment income and input output ratio profit at Cost 'C' respectively.

The total gross return from Gerbera was 857469 which include Rs. 454086 and Rs. 403383 during in two successive years. The total net return estimated from the sale flowers amounted to Rs. 205512.7, which is the total of Rs. 41545.67 and Rs. 163967 during the first year, respectively. The total farm business income from Gerbera is worked to Rs. 444330.3, which includes Rs. 165038.5 and Rs. 279291.8 during the first and second year respectively. The total family labour income is accounted to Rs. 219013.5, from comprising Rs. 48154.84 and Rs. 170858.7 during initial and second year respectively. The total farm investment income as estimated to Rs. 430829.4, out of which Rs. 158429.3 and Rs. 272400.1 corresponds to beginning and second year. The total input – output ratio profit at Cost 'C' is 2.78 out of which 1.10 and 1.68 during the first and second year respectively.

#### IV. CONCLUSION

- High cost of poly house, soluble fertilizer and gerbera plants.
- All the sample growers used raised bed system for planting and drip irrigation system as a method of irrigation.
- The cut flower cultivation in poly house is labour intensive enterprise.
- Cultivation of Gerbera under poly house owners is profitable in venture.

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