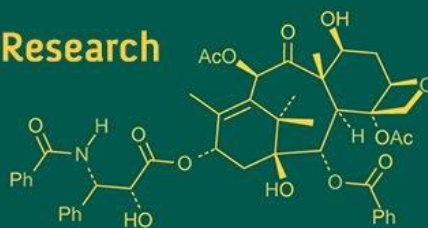


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Economic analysis of cultivation and value-added products of major flowers in Ambikapur region

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Abstract

The present study, "A Study on Marketing and Value Addition of Flowers in the Periphery of Ambikapur City," was undertaken to estimate the cost of cultivation, returns, and value addition potential of major flowers. Primary data were collected from selected growers cultivating rose, marigold, and chrysanthemum. Most respondents were middle-aged, with medium family size, small to medium landholdings, and five to ten years of experience in floriculture. The cost of cultivation was highest for rose (₹2,23,800/ha), followed by marigold (₹89,100/ha) and chrysanthemum (₹73,500/ha). Profitability analysis showed that marigold was the most remunerative, with a cost-benefit ratio (C:B) of 1:1.20, while rose and chrysanthemum recorded C:B ratios of 1:0.89 and 1:0.78, respectively. Value-added products enhanced profitability significantly. Large bouquets (C:B 1:2.21), small baskets (C:B 1:1.67), and marigold garlands (C:B 1:2.17) emerged as highly viable enterprises. The study also highlighted the potential of floral waste utilization. Processing discarded flowers into eco-friendly products such as gulal, incense sticks, and cow dung cakes not only reduced environmental hazards but also increased income. Among these, gulal production showed the highest profitability with a C:B ratio of 1:4.19. The findings suggest that while flower cultivation ensures steady returns, value addition and floral waste utilization considerably improve profitability and sustainability, offering promising opportunities for enhancing floriculture-based livelihoods in the Ambikapur region.

Keywords: Economic analysis, flower cultivation, value addition, cost-benefit ratio, floral waste utilization, value-added products

Introduction

Chhattisgarh, which was purposively selected out of 33 districts for its prominence in flower cultivation and marketing activities. From this area, a total of 80 flower growers and 15 retailers were selected as respondents, along with enterprises engaged in value-added products such as *Pancham-deep Agarbatti*, *Radhe-Krishna SHG (Surguja Gulal)*, and *Manbhavan Organic*. Stakeholders involved in floral waste management practices were also included to provide comprehensive insights into the value chain of floriculture.

Both primary and secondary data were utilized to achieve the study objectives. Primary data were collected directly from flower growers, wholesalers, and retailers using a well-structured questionnaire and interview schedule (Appendix A). Secondary data were obtained from official government websites, published research papers, and reports of the district horticulture department to supplement field-level findings. The period of enquiry was confined to the agricultural year 2024-25, ensuring the data captured reflected recent trends in costs, returns, and value addition practices.

For analysis, simple averages and percentage methods were employed to process and interpret the data, providing clear estimates of the cost of cultivation, marketing patterns, and the economic potential of value-added products in the Ambikapur region.

Results & Discussions

4.1 General characteristics of selected flower growers

The study of flower growers in Ambikapur revealed that most respondents were middle-aged with primary or secondary education, while few were graduates. Families were generally medium in size, with agriculture as the main occupation. Landholdings were small to medium, averaging one to three hectares, and a portion was allocated to flower cultivation. Irrigation facilities were available to most farmers, though some relied on rainfall. On

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average, growers had five to ten years of experience in floriculture, supplemented by income from cereals, vegetables, and livestock. Flowers were primarily marketed in Ambikapur, with a few progressive farmers selling in nearby towns for higher returns. Only a small proportion were associated with farmer groups, while most lived in semi-pucca houses and owned basic assets like mobile phones and motorbikes.

Cost of Cultivation - Rose (Cut Flower) per hectare

The cost of cultivation of rose (cut flower) was estimated at ₹2,23,800 per hectare (Table: 1), which included expenses on land preparation, planting material (10,000-12,000 grafted plants), fertilizers, pesticides, labor, irrigation (mainly drip), support structures, packaging, and transportation. Rose is a perennial crop with a productive life of 3-4 years, generating an average annual yield of about 1,70,000 flowers.

Table 1: Cost of Cultivation - Rose (Cut Flower) per hectare

S. No.	Cost Component	Description	Cost (₹)	Percentage Of Total Cost
1	Land Preparation	Ploughing, leveling, FYM	16,800	7.51
2	Planting Material	Grafted rose plants or saplings (12,000)	55,200	24.66
3	Manures & Fertilizers	FYM (10 tons), NPK, micronutrients	12,000	5.36
4	Pesticides & Fungicides	For thrips, mites, powdery mildew	9,000	4.02
5	Labour Costs	Planting, weeding, pruning, harvesting	22,000	9.83
6	Irrigation Cost	Drip irrigation, electricity	90,000	40.20
7	Mulching	Plastic mulch, bamboo sticks, twines	5,800	2.59
8	Packaging & Transport	Plastic sleeves, boxes, local transport	6,000	2.68
9	Maintenance & Misc.	Tools, equipment repair	7,000	3.13
10	Total Cost		2,23,800	100

Returns from Rose Cultivation

Rose cultivation is a promising long-term venture, with flowering starting 4-5 months after planting and continuing for up to three years. With an annual yield of 1,70,000 stems sold at ₹2.5 per stem, growers earn a gross income of

₹4,25,000. After deducting cultivation costs, the net profit is ₹2,01,200 per hectare, with a cost-benefit ratio of 1:0.89, indicating moderate but stable profitability and consistent returns over multiple seasons.

Table 2: Returns from Rose Cultivation

No.	Item	Estimate
1.	Flowering Period	Starts after 4-5 months; continues up to 3 years
2.	Yield per Year	1,70,000 stem
3.	Average Market Price	2.5 per stem
4.	Gross Income	425,000/year
5.	Net Profit	201,200/year
6.	C:B Ratio	1:0.89

Detailed Cost of Cultivation - Marigold (per hectare)

The cost of cultivation of marigold was estimated at ₹89,100 per hectare (Table 3), covering land preparation, 1.5 kg of

seeds, fertilizers, pesticides, labor, irrigation (mainly drip), support materials, packaging, and transportation. Marigold is a perennial crop with a productive life of 3-4 years.

Table 3: Cost of Cultivation - Marigold (per hectare)

S. No.	Cost Component	Description	Cost (₹)	Percentage of Total Cost
1	Land Preparation	Ploughing, harrowing, bed formation	9,000	10.10
2	Seedlings / Seeds	Hybrid seedlings (1.5 kg seeds)	4,500	5.05
3	Nursery Raising	Soil + polybags + labor for nursery	22,000	24.68
4	Transplanting & Labour	Manual transplanting and weeding	8,000	8.98
5	Fertilizers & Manures	FYM (5-6 tons), NPK, Micronutrients	7,000	7.86
6	Pesticides/Herbicides	Insect, mite, and fungal control	4,000	4.49
7	Irrigation Charges	Watering & maintenance	4,000	4.49
8	Harvesting Labour	Manual picking over multiple flushes	7,600	8.53
9	Packaging & Transport	Gunny bags, baskets, transport	22,000	24.68
10	Miscellaneous	Tools, maintenance	1,000	1.12
	Total Cost		89,100	100.00

Table 4: Returns from - Marigold (per hectare)

No.	Item	Cost
1.	Yield	10 tons (10,000 kg)
2.	Average Market Price	20/kg
3.	Gross Income	2,00,000
4.	Net Profit	1,10,900
5.	Crop Duration	4 months (short duration crop)
6.	C:B Ratio	1:1.2

Marigold cultivation offers a short-term, profitable opportunity, with a crop duration of 4 months and an annual yield of 10 tons. At an average market price of ₹20/kg, the gross income is ₹2,00,000, with a net profit of ₹1,10,900 per hectare. The cost-benefit ratio of 1:1.2 indicates that every ₹1 invested returns ₹1.20, making marigold cultivation an economically attractive and low-risk option for quick returns.

Chrysanthemum Flower - Cost of Cultivation per Hectare (Open Field)

The cost of cultivation of chrysanthemum was estimated at ₹73,500 per hectare (Table 5), including land preparation,

50,000 cuttings as planting material, fertilizers, pesticides, labor, irrigation (mainly drip), support materials, packaging, and transportation. Chrysanthemum is a perennial crop with a productive life of 3-4 years.

Table 5: Chrysanthemum Flower - Cost of Cultivation per Hectare (Open Field)

No.	Cost Component	Details	Cost (₹)	Percentage of Total Cost
1	Land Preparation	Ploughing, leveling, FYM application	12,000	16.33
2	Planting Material	50,000 cuttings/suckers @ 0.50/ Rs.	25,000	34.01
3	Planting Labour	Manual transplanting	3,500	4.76
4	Fertilizers & Manures	Urea, DAP, MOP, micronutrients, FYM	6,800	9.25
5	Plant Protection Chemicals	Insecticides, fungicides (powdery mildew, rust)	4,200	5.71
6	Irrigation	Manual or traditional irrigation	3,000	4.08
7	Weeding & Interculture	Regular weeding, hoeing, pinching	8,000	10.88
8	Harvesting Labour	Multiple pickings over 3 months	6,000	8.16
9	Packaging & Transport	Gunny bags, baskets, local transport	3,500	4.76
10	Miscellaneous	Tools, equipment, repairs	1,500	2.04
	Total		73,500	100

Table 6: Returns from Chrysanthemum Flower cultivation per hectare

No.	Component	Details
1	Yield	8 tons of flowers
2	Market Price	20/kg
3	Gross Returns	1,60,000
4	Net Profit	57,500
5	Crop Duration	5 - 6 months
6	C:B Ratio	01:0.78

Chrysanthemum cultivation provides a short-term, profitable option, with a crop duration of 4 months and an annual yield of 10 tons. At ₹20/kg, the gross income is ₹2,00,000, yielding a net profit of ₹1,10,900 per hectare. The cost-

benefit ratio of 1:1.2 indicates that every ₹1 invested returns ₹1.20, making it economically attractive for farmers seeking quick and low-risk returns.

Table 7: Economic of Bouquets.

S. No.	Particulars	Small	Medium	Large
1	Raw materials			
A	Rose (Rs 8 - 15 /piece)	32.30 (33.28)	80.70 (52.38)	340.00 (67.18)
B	Chrysanthemum (Rs 3-5 /Piece)	13.00 (13.39)	17.22 (11.17)	55.00 (10.86)
C	Gladiolus (Rs 6-8 /piece)	19.83 (20.43)	16.33 (10.6)	52.56 (10.38)
D	Jute paper / Tissue paper (Rs 3-5 /Piece)	6.30 (6.49)	7.21 (4.68)	16.30 (3.22)
E	Ribbon (Rs 1-2 /Piece)	1.50 (1.54)	3.20 (2.07)	5.30 (0.85)
2	Labour charge @ per bouquet	16.10 (16.59)	17.40 (11.29)	18.70 (3.69)
3	Miscellaneous (Artificial Fragrance, Rose water, Artificial colour)	8.00 (8.24)	12.00 (7.78)	18.20 (3.59)
4	Total variable cost	97.03 (100)	154.06 (100)	506.06 (100)
5	Gross return	170.00	400.00	2000.00
6	Net return	73.97	245.94	1504.94
7	C:B Ratio	1:1.32	1:1.59	1:2.97

Note: Figures in parentheses shows the percentage to total variable cost.

Economics of Bouquets

The economics of bouquets (Table 7) revealed that large-sized bouquets were the most profitable, highlighting the higher potential of value-added floral products over loose flowers. The total cost of producing small, medium, and large bouquets was ₹73.97, ₹245.94, and ₹1,504.94, respectively, while net returns were ₹73.97, ₹245.94, and ₹506.06. The cost-benefit ratios were 1:1.32, 1:1.59, and 1:2.97, indicating that larger bouquets offer significantly

higher profitability.

Economics of Baskets Flower (small baskets): Economics of Baskets is presented in the table.4.8. It was found that the Small size baskets was the most profitable value addition of flower was more potential than loose and cut flowers. On making of baskets, the total cost incurred on small, size of baskets was found to be Rs. 419.50 Net return from Baskets was Rs 281 and C:B ratio is 1:1.67 respectively.

Table 8: Economics of Baskets Flower (small baskets)

S. No.	Particulars	Cost in Rupees
1	Raw materials	
a	Rose @ Rs 6 * 20	120.00 (28.63)
b	Velvet/ Artificial flower @ Rs 3*35	105.00 (25.05)
c	Other flower @ Rs 5*20 (Chrysanthemum and Gladiolus)	100.00 (23.86)
d	Small baskets	50.00 (24.32)
e	Fancy cloth @ Rs9.75*2 meter	19.50 (11.93)
2	Labour @ per baskets	15.00 (3.79)
3	Miscellaneous (Tape, Fern)	10.00 (2.38)
4	Total variable cost	419.50 (100)
5	Gross return	700
6	Net return	281.00
7	C:B Ratio	1:1.67

Note: Figures in parentheses shows the percentage to total variable cost.

Economics of Marigold garland

Table 9: Economics of Marigold garland (Small) (One garland)

S. No.	Particulars	Cost in Rupees
1	Raw materials @ 200 gm	26.00 (76.47)
2	Labour charge @ per garland	3.29 (9.66)
3	Miscellaneous charge (Thread, Leaves, Artificial Pearl)	4.76 (14.00)
4	Total variable cost	34.05 (100)
5	Gross return	50.00
6	Net return	15.76
7	C:B Ratio	1:2.17

Note: Figures in parentheses shows the percentage to total variable cost.

The cost-benefit analysis of small garland production (Table 9) shows a total variable cost of ₹34.05 per garland, with raw materials accounting for ₹26.00 (76.47%), miscellaneous charges ₹4.76 (14.00%), and labor ₹3.29

(9.66%). The gross return is ₹50.00, yielding a net profit of ₹15.76 per unit, with a cost-benefit ratio of 1:2.17, indicating that garland production is economically viable and profitable.

Table 10: Economics of Marigold garland (Large) (One garland)

S. No.	Particulars	Cost in Rupees
1	Raw materials @ 350 gm	40.00 (83.33)
2	Labour charge @ per garland	3.43 (1.66)
3	Miscellaneous charge (Thread, Leaves, Artificial Pearl)	5.00 (10.32)
4	Total variable cost	48.43 (100)
5	Gross return	110.00
6	Net return	60.40
7	C:B Ratio	1:1.23

Note: Figures in parentheses shows the percentage to total variable cost.

The production of large garlands (Table 10) is material-intensive, with raw materials accounting for ₹40.00 (83.33%) of the total cost, labor at ₹3.43 (1.66%), and miscellaneous expenses ₹5.00 (10.00%). The total variable cost per garland is ₹48.43, generating a gross return of ₹110.00 and a net profit of ₹60.40. The cost-benefit ratio of 1:1.23 indicates that large garland production is profitable, sustainable, and economically viable.

Economics of Car decoration: The economics of car decoration (Table 11) shows that three packages are offered

by wholesalers, with the large-sized package being the most profitable, surpassing bouquets and garlands. The total variable cost of preparation is ₹728, mainly driven by labor (27.48%), roses (21.98%), and small bouquets (18.41%), along with fancy cloth (15.12%), velvet/artificial flowers (8.24%), other flowers like chrysanthemum and gladiolus (4.80%), and miscellaneous items (3.98%). The gross return is ₹1,710, yielding a net profit of ₹982. The cost-benefit ratio of 1:1.35 confirms economic viability, though profitability remains comparatively lower than other value-added floral products.

Table 11: Economics of Car decoration (Small package)

S. No	Particulars	Cost in Rupees
1	Raw materials	
A	Rose @ Rs 8*20	160.00 (21.98)
B	Velvet / Artificial flower @ Rs 8*18	60.00 (8.24)
C	Other flowers @ Rs 5*7 (Chrysanthemum and Gladiolus)	35.00 (4.80)
D	Small bouquets (1 unit)	134.00 (18.41)
E	Fancy cloth @ Rs 13.75 * 8 meter	110.00 (15.12)
2	Labour charge @ Rs 100*2	200.00 (27.48)
3	Miscellaneous (Tape, Fern, Foam)	29.00 (3.98)
4	Total variable cost	728.00 (100)
5	Gross return	1710.00
6	Net return	982.00
7	C:B Ratio	1:1.35

Note: Figures in parentheses shows the percentage to total variable cost.

The preparation of bouquets using fresh and artificial flowers (Table 11) incurs a total variable cost of ₹728, with the largest shares from labor (27.48%), roses (21.98%), and small bouquets (18.41%), followed by fancy cloth (15.12%), velvet/artificial flowers (8.24%), other flowers (4.80%), and

miscellaneous items (3.98%). The activity generates a gross return of ₹1,710, netting ₹982, with a cost-benefit ratio of 1:1.35, indicating economic viability, though with slightly lower profitability compared to other value-added floral products.

Table 12: Economics of Car decoration (Medium package)

S. No.	Particulars	Cost in Rupees
1	Raw materials	
a	Rose @ Rs 8 * 32	252.50 (20.46)
b	Velvet/ Artificial flower @ Rs 3*35	105.00 (8.50)
c	Other flower @ Rs 5*20 (Chrysanthemum and Gladiolus)	100.00 (8.10)
d	Bouquet (1 unit)	300.00 (24.32)
e	Fancy cloth @ Rs13.75*10 meter	137.50 (11.14)
2	Labour @ Rs 2*150	300.00 (24.32)
3	Miscellaneous (Tape, Fern, Foam)	39.00 (3.16)
4	Total variable cost	1234.00 (100)
5	Gross return	3495.00
6	Net return	2261.00
7	C:B Ratio	1:1.83

Note: Figures in parentheses shows the percentage to total variable cost.

The medium-sized car decoration package (Table 12) has a total variable cost of ₹1,234, with the largest shares from bouquet units (24.32%) and labor (24.32%), followed by roses (20.46%), fancy cloth (11.14%), velvet/artificial flowers (8.50%), and other flowers like chrysanthemum and

gladiolus (8.10%), while miscellaneous items account for 3.16%. The activity generates a gross return of ₹3,495 and a net profit of ₹2,261, with a cost-benefit ratio of 1:1.83, indicating higher profitability than smaller bouquet preparations.

Table 13: Economics of Car decoration (Large package)

S. No.	Particulars	Cost
1	Raw materials	
A	Rose @ Rs 8 * 90	720.00 (33.64)
B	Velvet/ Artificial flower @ Rs 3*12	35.00 (1.63)
C	Other flower @ Rs 5*60 (Chrysanthemum and Gladiolus)	300.00 (14.02)
D	Large bouquet (1 unit)	480.00 (22.43)
E	Fancy cloth @ Rs 13.75*12 meter	165.00 (7.72)
2	Labour @ Rs 200 *2	400.00 (18.70)
3	Miscellaneous (Tape, Fern, Foam)	40.00 (1.86)
4	Total variable cost	2140.00 (100)
5	Gross return	6875.00
6	Net return	4735.00
7	C:B Ratio	1:2.21

Note: Figures in parentheses shows the percentage to total variable cost

The large bouquet preparation (Table 13) incurs a total variable cost of ₹2,140, with major expenses from roses (33.64%), bouquet units (22.43%), and labor (18.70%), followed by other flowers like chrysanthemum and gladiolus (14.02%), fancy cloth (7.72%), velvet/artificial

flowers (1.63%), and miscellaneous items (1.86%). The activity generates a gross return of ₹6,875 and a net profit of ₹4,735, with a cost-benefit ratio of 1:2.21, indicating high profitability and making it more rewarding than smaller bouquet preparations.

Economics of value added floral waste products: While value addition in floriculture typically focuses on converting fresh flowers into marketable products, less attention has been given to utilizing floral waste. However, some

enterprises in Chhattisgarh, such as Ganesh Global Pvt. Ltd., have begun transforming floral waste into valuable products like Gulal, incense sticks, and cow dung cakes, which are marketed across different states and even abroad.

Table 14: Economics of value added floral waste product (Gulal)

S. No.	Particulars	Quantity	Cost in Rupees	Rs/ quintal	Rs/kg
1	Dry waste flower (marigold, rose, chrysanthemum) (kg)	60.00	21.00	1260.00 (20.44)	12.60
2	Premix powder (kg)	40.00	45.00	1800.00 (29.19)	18.00
3	Scent (Litre)	1.00	200.00	200.00 (3.24)	2.00
4	Liquid Colour (Litre)	1.00	550.00	550.00 (8.92)	5.50
5	Labour Cost	10.00	200.00	2000.00 (32.44)	20.00
6	Plastic Package (no.)	1.00	55.00	55.00 (0.90)	0.55
7	Miscellaneous (Machine, Electricity charge, Water)	-	-	300.00 (4.87)	3.00
8	Total variable cost	-	-	6165.00 (100)	61.65
9	Gross return	-	-	32000.00	320.0
10	Net return	-	-	25835.00	258.3
11	C:B Ratio	-	-	1:4.19	1:4.19

Note: Figures in parentheses shows the percentage to total variable cost.

The production of value-added floral waste products (Table 14) incurred a total variable cost of ₹6,165 per quintal (₹61.65 per kg), with major expenses on labour (32.44%) and premix powder (29.19%), followed by dry waste flowers (20.44%). Smaller costs included liquid colour

(8.92%), scent (3.24%), miscellaneous charges (4.87%), and packaging (0.90%). The gross return was ₹32,000 per quintal (₹320 per kg), yielding a net return of ₹25,835 per quintal (₹258.35 per kg). The cost-benefit ratio of 1:4.19 indicates high profitability and strong economic viability.

Table 15: Economics of value added floral waste product (Incense stick)

S. No.	Particulars	Quantity	Cost in Rupees	Rs/ quintal	Rs/kg
1	Dry waste flower (marigold, rose, chrysanthemum) (kg)	55	21	1155.00 (17.51)	11.55
2	Binding powder mixture (kg)	30	45	1350.00 (20.48)	13.5
3	Labour cost (no.)	12	160	1920.00 (29.12)	19.2
4	Bamboo stick (kg)	12	110	1320 (20.01)	13.2
5	Natural fragrance (kg)	1.5	400	600.00 (9.09)	6.00
6	Plastic Packaging (no.)	100	2.50	250.00 (3.79)	2.50
7	Total variable cost	-	-	6595.00 (100)	65.95
8	Gross return	-	-	17500.00	175
9	Net return	-	-	10905.00	109.0
10	C:B Ratio	-	-	1:1.65	1:1.65

Table 15 outlines the economics of producing incense sticks from floral waste. The total variable cost is ₹6,595 per quintal (₹65.95 per kg), with major expenses on labour (29.12%), binding powder mixture (20.48%), and bamboo sticks (20.01%), while dry waste flowers contribute 17.51%. Minor costs include natural fragrance (9.09%) and plastic

packaging (3.79%). The gross return is ₹17,500 per quintal (₹175 per kg), resulting in a net return of ₹10,905 per quintal (₹109.05 per kg). The cost-benefit ratio of 1:1.65 indicates moderate profitability, showing that for every rupee invested, the return is ₹1.65.

Table 16: Economics of value added floral waste product (Cow dung cake)

S. No.	Particulars	Quantity	Cost in Rupees	Rs/ quintal	Rs/kg
1	Dry waste flower (marigold, rose, chrysanthemum) (kg)	75	7	525.00 (30.25)	5.25 (30.2)
2	Cow dung cake (kg)	225	2	450.00 (25.94)	4.50 (25.9)
3	Labour (no.)	4	140	560.00 (32.28)	5.60 (32.2)
4	Plastic packaging (no.)	100	2	200.00 (11.53)	2.00 (11.5)
5	Total variable cost	-	-	1735.00 (100)	17.35 (100)
6	Gross return	-	-	5000.00	50.00
7	Net return	-	-	3265.00	32.65
8	C:B Ratio	-	-	1:1.88	1:1.88

Note: Figures in parentheses shows the percentage to total variable cost.

Table 16 presents the cost and return structure for producing a value-added floral waste product, cow dung cake. The total variable cost is ₹1,735 per quintal (₹17.35 per kg), with major expenses on labour (32.28%), dry waste flowers (30.25%), and cow dung (25.94%), while plastic packaging accounts for 11.53%. The gross return is ₹5,000 per quintal (₹50 per kg), resulting in a net return of ₹3,265 per quintal (₹32.65 per kg). The cost-benefit ratio of 1:1.88 indicates

that for every rupee invested, the return is ₹1.88, highlighting the profitability and economic viability of this enterprise.

Conclusion

The study of flower cultivation and value-added products in Ambikapur demonstrates that floriculture is both economically viable and profitable for small and medium

farmers. Among flowers, rose cultivation offers moderate but stable returns over multiple seasons, while short-duration crops like marigold and chrysanthemum provide quick and low-risk profits. Value addition through bouquets, garlands, baskets, and car decorations significantly enhances profitability, with large-sized products yielding the highest returns and cost-benefit ratios. Moreover, the utilization of floral waste into products like Gulal, incense sticks, and cow dung cakes has emerged as a highly profitable and sustainable enterprise, with Gulal showing the highest return (C:B ratio 1:4.19). Overall, integrating flower cultivation with value-added product creation and floral waste management provides farmers with diversified income sources, enhances resource efficiency, and strengthens the economic sustainability of floriculture in the periphery of Ambikapur.

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