

# An Economic Analysis of Cut Flower Marketing in Tamil Nadu

J.S. Amarnath\* and K. Tamil Vendhan

Department of Agricultural Economics, Agricultural College and Research Institute, Tamil Nadu Agricultural University, Madurai, India

\*Corresponding author: dramar\_econ@rediffmail.com

## ABSTRACT

An economic analysis of cut flower marketing was taken up in Hosur block of Krishnagiri district of Tamil Nadu. Four channels were identified for the marketing of the cut flowers in the study region namely two commission agent channels, one a wholesaler channel and another a retailer channel. The price spread analysis by the sum of average gross margin method revealed that marketing channel IV namely the retailer channel was the efficient marketing channel because of better pricing mechanism, lesser price spread and better regulation that is prevalent in this channel. Marketing efficiency was estimated by Shepherd method and Acharya and Agarwal method. In this analysis also, marketing Channel- IV was found to be the most efficient marketing channel for all the three flower crops. Further, SWOC analysis of cut flower production was carried out and the strength in cut flower production is the production of flowers throughout the year and the spread and prevalence of new high tech technologies. The weakness included poor air freight capacity and the lack of airport infrastructure of the region. Lot of opportunities for cut flower production exist with the development of Agri-export zone in the region. The challenges daunting the cut flower production are labour problems and price fluctuation of cut flowers. Marketing constraints were studied by Garrett ranking technique. Higher price fluctuation was an important marketing constraint and the lack of continuous supply of cut flowers was the most important problem of intermediaries. The policy advocacy to overcome higher price fluctuation is by adopting the Action market forecast of Bengaluru and by following forward trading.

**Keywords:** Price spread, marketing channel, marketing cost, marketing margin, marketing efficiency

Cutflowers accounted for 72.00 per cent of the value of floriculture exports in 2011-2012 and thus the cutflowers - fresh and dried dominate floriculture export trade of India. The major importers for Indian cut flowers are Europe and Japan. In 2012-2013, the production of cut flowers in India was 76731.90 MT. West Bengal was the leading producer followed by Karnataka, Maharashtra, Andhra Pradesh, Odisha, Uttar Pradesh and Assam. In Tamil Nadu, Hosur is a leading region in area and the production of cut flowers in the country. The area under Rose in Hosur is around 540 ha and the production was 3200 Metric tonne. In recent years the area under Gerbera and Rose is fast increasing around Hosur and Bangalore because of high profits. As far as the productivity is concerned, there has been a lot of scope for the increase in the productivity and profit through the adoption of the latest improved

production and marketing technologies. Hence, there is a need to generate information regarding production and especially the marketing aspects and the constraints in the marketing of the cut flowers to enthuse the farmers for cut flower production and marketing and finally to export.

The production and marketing of cut flowers is confronted with different location specific problems and the cut flower producers are often facing imperfect market which necessitates for undertaking a systematic integrated and an in-depth study on the marketing of the flowers. With this view in mind, the present study was undertaken to address problems in the marketing of the cut flower crops in Hosur block of Krishnagiri district and to elicit the possibilities and potentialities for improving the marketing of the cut flowers in the region.

**METHODOLOGY**

**Choice of the study area**

Hosur block in Krishnagiri district of Tamil Nadu was purposively selected as the universe of the study, since the area under cut flower crops in this block was found to be the highest with 325.57 hectares among all the blocks present in Krishnagiri district. Moreover, the whole sale flower market for the entire Krishnagiri district is located at Hosur and hence this block was selected. The intermediaries such as wholesalers and commission agents operating at Hosur flower market and the flower retailers operating at Hosur were listed and 10 intermediaries from each category were also selected

**Price spread analysis**

The cost of marketing included transport, loading and unloading, storage and other incidental expenses incurred for marketing the produce. In the process of the marketing of the cut flowers, the difference between price paid by the consumer and the price received by the producer of cut flowers for an equivalent quantity was defined as "price spread". Data on profits of the various market functionaries involved in moving the produce from the initial point of production till it reached the ultimate consumer were collected. In this study, the sum-of-average gross margin method was used in the estimation of the price spread.

**(a) Sum-of-Average gross margin method**

The average gross margins of all the intermediaries were added to obtain the total marketing margin as well as the breakup of the consumers' rupee.

$$MT = \sum_{i=1}^n \frac{S_i - P_i}{Q_i}$$

Where,

- MT = Total Marketing Margin
- S<sub>i</sub> = Sale value of a product for i<sup>th</sup> intermediary
- P<sub>i</sub> = Purchase value paid by the i<sup>th</sup> intermediary
- Q<sub>i</sub> = Quantity of the product handled by the i<sup>th</sup> intermediary
- i = 1, 2, 3 ... N (Number of intermediaries involved)

**(b) Farmer's share in consumer rupee**

Further, the Farmer's share in the consumer rupee was calculated with the help of the following formula:

$$Fs = (Fp/Cp) \times 100$$

Where,

- Fs = Farmer's share in consumer rupee (percentage)
- Fp = Farmers' price
- Cp = consumers' price

**Marketing efficiency**

Marketing efficiency is a measure of the market performance. Shepherd's Formula, Acharya and Agarwal index were employed in the present study to analyse the marketing efficiency of the cut flower crops.

**(a) Shepherd's formula**

Shepherd (1965) suggested that the ratio of the total value of goods marketed to the marketing cost could be used as a measure of marketing efficiency. The higher this ratio, higher would be the efficiency and *vice versa*. This can be expressed in the following form:

$$ME = [(V/I)]$$

Where,

- ME = Index of marketing efficiency
- V = Value of goods sold
- I = Total marketing cost

**(b) Acharya and Agarwal index**

Acharya and Agarwal (1987) formulated this method to compare the relative efficiency of different markets by using the following formula:

$$E = \frac{O}{I}$$

Where,

- E = marketing efficiency expressed in percentage terms by multiplying with 100
- O = value added to outputs in marketing system and
- I = inputs used in marketing process

## 2.4 Garrett's ranking technique

Garrett's Ranking Technique was employed in the present study to examine the various constraints in the order of their importance. The respondents were asked to rank the problems in flowers production, processing and marketing. In the Garrett's ranking technique these ranks were converted into percent position by using the formula,

$$\text{Percent position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

where,

$R_{ij}$  = Ranking given to the  $i^{\text{th}}$  attribute by the  $j^{\text{th}}$  individual

$N_j$  = Number of attributes ranked by the  $j^{\text{th}}$  individual.

By referring to the Garrett's table, the per cent positions were estimated and converted into scores. Then the scores of various respondents for each of the factor were added and the mean values were estimated. The mean values thus obtained for each of the attributes were arranged in the descending order. The attributes with the highest mean value was considered as the most important one, followed by others in that order.

## RESULTS AND DISCUSSION

### Marketing Channels of Cut Flowers

In Krishnagiri district, Rose, Gerbera and Carnation were marketed by the four marketing channels. Hence, the price spread of different marketing channels was worked out and the results are presented in Tables 1 to 4. The following four marketing channels identified in the study areas are presented below.

#### Channel I

Producer → Commission agent → Wholesaler → Retailer → Consumer

#### Channel II

Producer → Commission agent → Retailer → Consumer

#### Channel III

Producer → Wholesaler → Retailer → Consumer

#### Channel IV

Producer → Retailer → Consumer

### Price Spread Analysis of Cut Flowers

Price spread analysis for Rose - Marketing channel I  
The price spread of Rose in the marketing channel I is presented in Table 1.

**Table 1:** Price spread of cut flowers in Marketing Channel - I

Sl. No.	Particulars	Rose (in %)	Gerbera (in %)	Carnation (in %)
<b>Producer</b>				
1	Gross price received	68.22 (60.29)	37.25 (38.04)	40.05 (42.51)
2	Cost of Packing / grading	0.42 (0.37)	0.38 (0.38)	0.38 (0.40)
3	Loading and unloading	0.24 (0.21)	0.23 (0.23)	0.23 (0.24)
4	Transport cost	1.71 (1.51)	1.29 (1.31)	1.29 (1.36)
5	Commission charges	6.82 (6.02)	3.72 (3.79)	4.00 (4.24)
6	Marketing cost	9.19 (8.11)	5.62 (5.71)	5.90 (6.24)
7	Net price received	59.03 (52.18)	31.63 (32.33)	34.15 (36.27)
<b>Commission agent</b>				
<b>Wholesaler</b>				
1	Price paid / Purchase price	68.22 (60.29)	37.25 (38.04)	40.05 (42.51)
2	Labour charges	0.60 (0.53)	0.60 (0.61)	0.60 (0.63)
3	Transport costs	1.29 (1.14)	1.29 (1.31)	1.29 (1.36)
4	Loading and unloading	0.20 (0.17)	0.20 (0.20)	0.20 (0.21)
5	Value of quantity lost	0.16 (0.14)	0.16 (0.16)	0.16 (0.16)
6	Marketing cost	2.25 (1.98)	2.25 (2.29)	2.25 (2.38)
7	Marketing margin	4.70 (4.16)	34.65 (35.39)	30.99 (32.89)
8	Price received / Sale price	75.17 (66.43)	74.15 (75.74)	73.29 (77.80)
<b>Retailer</b>				
1	Price paid / Purchase price	75.17 (66.43)	74.15 (75.74)	73.29 (77.80)

2	Labour charges	0.68 (0.60)	0.58 (0.59)	0.58 (0.61)
3	Transport costs	3.17 (2.80)	2.93 (2.99)	2.93 (3.11)
4	Value of quantity lost	0.55 (0.48)	0.52 (0.53)	0.52 (0.55)
5	Marketing cost	4.40 (3.88)	4.03 (4.11)	4.03 (4.27)
6	Marketing margin	33.58 (29.69)	19.72 (20.14)	16.88 (17.93)
	Price Spread	54.12 (47.82)	66.27 (67.67)	60.05 (63.73)

The farmers received a net price of ₹ 59.03 per bunch of Rose in Channel I, which constituted 52.17 per cent to the consumers' price. The commission charge was ₹ 6.82 per bunch, which constituted 6.02 per cent to the consumers' rupees. The wholesaler who purchased from the producer incurred an expenditure of ₹ 2.25 towards loading and unloading, transport, labour and the value of quantity lost which accounted for 1.98 per cent of the consumer price, and earned a marketing margin of ₹ 4.70 which accounted for 4.16 per cent of the consumer price. The marketing cost incurred by the retailer was ₹ 4.40 per bunch, which constituted 3.88 per cent to the consumers' price and his marketing margin was ₹ 33.58, which constituted 29.69 per cent to the consumers' price. The farmer's share in consumer rupee was 52.18 per cent and the price spread was 47.82 per cent.

#### *Price spread analysis for Gerbera - Marketing channel I*

The price spread of Gerbera in marketing channel I is presented in Table 1. The farmers received a net price of ₹ 31.63 per bunch of Gerbera in Channel I, which constituted 32.31 per cent to the consumers' price. The commission charges was ₹ 3.72 per bunch, which constituted 3.79 per cent to the consumers' rupee. The wholesaler who purchased from the producer incurred an expenditure of ₹ 2.25 towards loading and unloading, transport, labour and the value of quantity lost which accounted for 2.29 per cent of the consumer price, and earned a marketing margin of ₹ 13.60 which accounted for 13.90 per cent of the consumers' price. The marketing cost incurred by the retailer was ₹ 4.03 per bunch, which constituted 4.11 per cent to the consumers' price and

his marketing margin was ₹ 19.72, which constituted 20.14 per cent to the consumers' price. The farmer's share in consumer rupee was 32.33 per cent and the price spread was 67.67 per cent.

#### *Price spread analysis for Carnation - Marketing channel I*

The price spread of the Carnation in marketing channel I is presented in Table 5.53. The farmers received a net price of ₹ 34.15 per bunch of Carnation in Channel I, which constituted 36.26 per cent to the consumers' price. The commission charge was ₹ 4.00 per bunch, which constituted 4.24 per cent to the consumers' rupees. The wholesaler who purchased from producer incurred an expenditure of ₹ 2.25 towards loading and unloading, transport, labour and the value of quantity lost, which accounted for 2.38 per cent of the consumer price and earned a marketing margin of ₹ 30.99, which accounted for 32.89 per cent of the consumers' price. The marketing cost incurred by the retailer was ₹ 4.03 per bunch, which constituted 4.27 per cent to the consumers' price and his marketing margin was ₹ 16.88, which constituted 17.93 per cent to the consumers' price. The farmer's share in consumer rupee was 36.27 per cent and the price spread was 63.73 per cent.

In this channel, the price spread for Gerbera was the highest with 67.67 per cent followed by Carnation with 63.73 per cent. The price spread for Rose was the lowest with 47.82 per cent and consequently, the Rose farmers received the highest net price of 52.18 per cent. Carnation farmers received the intermediate net price of 36.27 per cent and Gerbera farmers received the lowest net price of 32.33 per cent.

#### *Price spread analysis for Rose - Marketing channel II*

The price spread analysis for marketing channel II is furnished in Table 2. It could be seen from the table that the farmers had received a net price of ₹ 59.03 per bunch, which constituted 53.53 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 9.19 per bunch, which constituted 8.17 per cent to the total consumer price. The marketing cost of the retailer was ₹ 4.40, which included spoilage and transport cost and the marketing margin of the retailer was



₹ 39.77 per bunch which constituted 35.40 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 52.53 per cent and the price spread was 47.47 per cent. The farmers share was less in this channel when compared to channel III and channel IV because of the less gross price received (₹ 68.22 / bunches) and also due to the presence of two intermediaries in this channel namely Commission agent and retailer.

**Table 2:** Price spread of cut flowers in Marketing Channel – II

Sl. No.	Particulars	Rose (in %)	Gerbera (in %)	Carnation (in %)
<b>Producer</b>				
1	Gross price received	68.22 (60.69)	36.31 (41.65)	42.71 (47.64)
2	Cost of Packing / grading	0.42 (0.37)	0.38 (0.43)	0.38 (0.42)
3	Loading and unloading	0.24 (0.21)	0.23 (0.26)	0.23 (0.25)
4	Transport cost	1.71 (1.52)	1.29 (1.48)	1.29 (1.44)
5	Commission charges	6.82 (6.06)	3.63 (4.16)	4.27 (4.76)
6	Marketing cost	9.19 (8.16)	5.53 (6.33)	6.17 (6.88)
7	Net price received	59.03 (52.53)	30.78 (35.32)	36.54 (40.76)
<b>Commission agent</b>				
<b>Retailer</b>				
1	Price paid / Purchase price	68.22 (60.69)	36.31 (41.65)	42.71 (47.64)
2	Labour charges	0.68 (0.60)	0.58 (0.66)	0.58 (0.64)
3	Transport costs	3.17 (2.83)	2.93 (3.36)	2.93 (3.26)
4	Value of Spoilage	0.55 (0.48)	0.52 (0.59)	0.52 (0.59)
5	Marketing cost	4.40 (3.91)	4.03 (4.62)	4.03 (4.49)
6	Marketing margin	39.77 (35.40)	46.82 (53.71)	42.91 (47.86)
	Price Spread	53.36 (47.47)	56.38 (64.68)	53.11 (59.24)

**Price spread analysis for Gerbera - Marketing channel II**

The price spread analysis for marketing channel II is

furnished in Table 2. It could be seen from the table that the farmers had received a net price of ₹ 30.78 per bunch, which constituted 35.32 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 5.53 per bunch, which constituted 6.34 per cent to the total consumer price. The marketing cost of the retailer was ₹ 4.03, which included spoilage loss, labour and transport cost and the marketing margin of the retailer was ₹ 46.82 per bunch, which constituted 53.71 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 35.32 per cent and the price spread was 64.68 per cent. The farmers share was less in this channel when compared to channel III and channel IV because of the less gross price received (₹ 36.31 / bunches) and also due to the presence of two intermediaries in this channel namely Commission agent and retailer.

**Price spread analysis for Carnation - Marketing channel II**

The price spread analysis for marketing channel II is furnished in Table 2. It could be seen from the table that the farmers had received a net price of ₹ 36.54 per bunch, which constituted 40.76 per cent to the total consumer price. The marketing cost incurred by producer was ₹ 6.17 per bunch, which constituted 6.88 per cent to the total consumer price. The marketing cost of the retailer was ₹ 4.03, which included spoilage loss, labour and transport cost and the marketing margin of the retailer was ₹ 42.91 per bunch, which constituted 47.86 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 40.76 per cent and the price spread was 59.24 per cent. The farmers share was less in this channel when compared to channel III and channel IV because of the less gross price received (₹42.71 / bunches) and also due to the presence of two intermediaries in this channel namely Commission agent and retailer.

In this channel also, the price spread analyses revealed the same pattern with the highest value for Gerbera with 64.68 per cent followed by Carnation with 59.24 percent. The price spread for Rose was the lowest with 47.47 per cent. Accordingly, the Rose farmers received the highest net price of 52.53 per cent followed by Carnation farmers with 40.76 per cent and lastly Gerbera farmers with the lowest net price of 35.32 per cent. Hence there was no much

difference between these two channels for all the three cut flower crops. The absence of wholesaler had little effect on marketing cost and marketing margin in this channel.

**Price spread analysis for Rose - Marketing channel III**

The price spread analysis for marketing channel III is furnished in Table 3. It could be seen from the table that the farmers had received a net price of ₹ 60.79 per bunch, which constituted 57.74 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 2.37 per bunch, which constituted 2.25 per cent to the total consumer price. The marketing cost of the wholesaler was ₹ 2.25, which constituted 2.13 per cent to the total consumer price. His marketing margin was ₹ 9.76, which constituted 9.28 per cent to the total consumer price. The marketing cost of the retailer which included spoilage loss and transport cost was ₹ 3.72. The marketing margin of retailer was ₹ 25.71 per bunch, which constituted 24.42 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 57.74 per cent and the price spread was 42.26 per cent. Even though the farmers in this channel received a similar gross price when compared to marketing channel II, they received a higher farmer share due to the lesser price spread of 42.26 per cent.

**Price spread analysis for Gerbera - Marketing channel III**

The price spread analysis for marketing channel III is furnished in Table 3. It could be seen from the table that the farmers had received a net price of ₹ 38.24 per bunch, which constituted 41.80 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 1.90 per bunch, which constituted 2.07 per cent to the total consumer price. The marketing cost of the wholesaler was ₹ 2.25, which constituted 2.45 per cent to the total consumer price. His marketing margin was ₹ 17.46, which constituted 19.09 per cent to the total consumer price. The marketing cost of the retailer which included spoilage loss, labour charges and transport cost was ₹ 4.03. The marketing margin of retailer was ₹ 27.61 per bunch, which constituted 30.19 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 41.80 per

cent and the price spread was 58.20 per cent. Even though the farmers in this channel received a similar gross price when compared to marketing channel II, they received a higher farmer share due to the lower price spread of 58.20 per cent.

**Table 3: Price spread of cut flowers in Marketing Channel – III**

Sl. No.	Particulars	Rose (in %)	Gerbera (in %)	Carnation (in %)
<b>Producer</b>				
1.	Gross price received	63.16 (59.99)	40.14 (43.87)	44.32 (49.43)
2.	Cost of Packing / grading	0.42 (0.39)	0.38 (0.41)	0.38 (0.42)
3.	Loading and unloading	0.24 (0.23)	0.23 (0.25)	0.23 (0.25)
4.	Transport cost	1.71 (1.63)	1.29 (1.41)	1.29 (1.44)
5.	Marketing cost	2.37 (2.25)	1.90 (2.07)	1.90 (2.11)
6.	Net price received	60.79 (57.74)	38.24 (41.80)	42.42 (47.32)
<b>Commission agent</b>				
<b>Wholesaler</b>				
1.	Price paid / Purchase price	63.16 (59.99)	40.14 (43.87)	44.32 (49.43)
2.	Labour charges	0.60 (0.56)	0.60 (0.65)	0.60 (0.66)
3.	Transport costs	1.29 (1.22)	1.29 (1.41)	1.29 (1.43)
4.	Loading and unloading	0.20 (0.19)	0.20 (0.22)	0.20 (0.23)
5.	Value of quantity lost	0.16 (0.16)	0.16 (0.17)	0.16 (0.18)
6.	Marketing cost	2.25 (2.13)	2.25 (2.45)	2.25 (2.50)
7.	Marketing margin	9.76 (9.28)	17.46 (19.09)	14.75 (16.46)
8.	Price received / Sale price	75.17 (71.40)	59.85 (65.41)	61.32 (68.39)
<b>Retailer</b>				
1.	Price paid / Purchase price	75.17 (71.40)	59.85 (65.41)	61.32 (68.39)
2.	Labour charges	0.68 (0.64)	0.58 (0.63)	0.58 (0.64)
3.	Transport costs	3.17 (3.01)	2.93 (3.20)	2.93 (3.26)

4	Value of quantity lost (spoilage)	0.55 (0.52)	0.52 (0.57)	0.52 (0.59)
5	Marketing cost	4.40 (4.17)	4.03 (4.40)	4.03 (4.49)
6	Marketing margin	25.71 (24.42)	27.61 (30.19)	24.30 (27.12)
	Price Spread	44.49 (42.26)	53.25 (58.20)	47.23 (52.68)

**Price spread analysis for Carnation - Marketing channel III**

The price spread analysis for marketing channel III is furnished in Table 3. It could be seen from the table that the farmers had received a net price of ₹ 42.42 per bunch, which constituted 47.32 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 1.90 per bunch, which constituted 2.11 per cent to the total consumer price. The marketing cost of the wholesaler was ₹ 2.25, which constituted 2.50 per cent to the total consumer price. His marketing margin was ₹ 14.75, which constituted 16.46 per cent to the total consumer price. The marketing cost of the retailer which included spoilage loss, labour charges and transport cost was ₹ 4.03. The marketing margin of the retailer was ₹ 24.30 per bunch, which constituted 27.12 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 47.32 per cent and the price spread was 52.68 per cent. Even though the farmers in this channel received a similar gross price when compared to marketing channel II, they received a higher farmer share due to the lesser price spread of 52.68 per cent.

In this channel also, the price spread for Gerbera was the highest with 58.20 per cent followed by Carnation with 52.68 per cent. The price spread for Rose was the lowest with 42.26 per cent and accordingly, the Rose farmers received the highest net price of 57.74 per cent. Carnation farmers received the intermediate net price of 47.32 per cent and Gerbera farmers received the lowest net price of 41.80 per cent. In this channel, even though all the three cut flower crops revealed the similar pattern in price spread and farmer share, price spread was substantially lower and farmer share was substantially higher when compared to the previous two channels due to the absence of market intermediary namely commission agent.

**Price spread analysis for Rose - Marketing channel IV**

The price spread analysis for marketing channel IV is furnished in Table 4.

**Table 4:** Price spread of cut flowers in Marketing Channel – IV

Sl. No.	Particulars	Rose (in %)	Gerbera (in %)	Carnation (in %)
<b>Producer</b>				
1.	Gross price received	66.54 (60.44)	39.37 (45.45)	52.54 (56.89)
2.	Cost of Packing / grading	0.42 (0.38)	0.38 (0.43)	0.38 (0.41)
3.	Loading and unloading	0.24 (0.22)	0.23 (0.28)	0.23 (0.24)
4.	Transport cost	1.71 (1.56)	1.29 (1.48)	1.29 (1.40)
5.	Marketing cost	2.37 (2.16)	1.90 (2.19)	1.90 (2.05)
6.	Net price received	64.14 (58.28)	37.47 (43.26)	50.64 (54.84)
<b>Retailer</b>				
1.	Price paid / Purchase price	66.54 (60.44)	39.37 (45.45)	52.54 (56.89)
2.	Labour charges	0.68 (0.61)	0.58 (0.66)	0.58 (0.62)
3.	Transport costs	3.17 (2.89)	2.93 (3.38)	2.93 (3.17)
4.	Value of quantity lost (spoilage)	0.55 (0.49)	0.52 (0.61)	0.52 (0.57)
5.	Marketing cost	4.40 (3.99)	4.03 (4.65)	4.03 (4.36)
6.	Marketing margin	39.12 (35.57)	43.22 (49.90)	35.78 (38.75)
	Price Spread	45.92 (41.72)	49.15 (56.74)	41.71 (45.16)

It could be seen from the table that the farmers had received a net price of ₹ 64.14 per bunch, which constituted 58.28 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 2.37 per bunch, which constituted 2.16 per cent to the total consumer price. The marketing cost of the retailers was ₹ 4.40, which constituted 3.99 cent to the total consumer price. His marketing margin was ₹ ₹ 39.12, which constituted 35.57 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 58.28 per cent which

was little higher than all the other marketing channels and the price spread was 41.72 per cent. Due to the lower price spread of 41.72 observed in marketing channel IV when compared to the other three channels, the farmers share was high in marketing channel IV.

**Price spread analysis for Gerbera - Marketing channel IV**

The price spread analysis for marketing channel IV is furnished in Table 4. It could be seen from the table that the farmers had received a net price of ₹ 37.47 per bunches which constituted 43.26 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 1.90 per bunch, which constituted 2.19 per cent to the total consumer price. The marketing cost of the retailers was ₹ 4.03, which constituted 4.65 per cent to the total consumer price. His marketing margin was ₹43.22, which constituted 49.90 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 43.26 per cent, which was higher than marketing channel I, II and III and the price spread was 56.74 per cent. The farmers in the marketing channel IV received a higher gross price than marketing channel I, II and III due to the lower price spread of 56.74 observed in marketing channel IV.

**Price spread analysis for Carnation - Marketing channel IV**

The price spread analysis for marketing channel IV is furnished in Table 4. It could be seen from the table that the farmers had received a net price of ₹ 50.64 per bunch, which constituted 54.84 per cent to the total consumer price. The marketing cost incurred by the producer was ₹ 1.90 per bunch, which constituted 2.05 per cent to the total consumer price. The marketing cost of the retailers was ₹ 4.03, which constituted 4.36 per cent to the total consumer price. His marketing margin was ₹ 35.78, which constituted 38.75 per cent to the total consumer price. Thus, the farmers share in consumer rupee was 54.84 per cent and the price spread was 45.16 per cent. The farmers in the marketing channel IV received a higher gross price than the other marketing channels due to the lower price spread of 45.16 observed in marketing channel IV.

In this channel also, the price spread for Gerbera was the highest with 56.74 per cent followed by Carnation with 45.16 per cent. The price spread for Rose was the lowest with 41.72 per cent and accordingly the farmers share varied among these crops. Among all the four channels, this channel had the lowest price spread and the highest farmer share due to the absence of two market intermediaries namely commission agent and wholesalers.

**Marketing Efficiency of Cut Flowers**

The marketing efficiency of Rose, Gerbera and Carnation in the identified four marketing channels was calculated by using Shepherd’s method and Acharya and Agarwal method to delineate the most efficient marketing channel for each of the cut flowers in the study area and the results are presented in Table. 5. From Table 5 , it was evident that Channel- IV was found as the most efficient marketing channel for all the three flower crops as revealed by the value of Shepherd’s and Acharya and Agarwal followed by Channel- II , Channel III and channel I. For this channel, the Shepherd value was the highest for all the cut flower crops with values of 16.25, 14.60 and 15.57 for Rose, Gerbera and Carnation respectively. The Acharya and Agarwal value was also the highest for all the three cut flower crops with values of 6.42, 8.28 and 7.03 in this channel. Thus this finding was in line with the earlier finding of price spread analysis that the retailer channel was the efficient channel.

**Table 5:** Marketing efficiency of different flower crops across channels of marketing

Sl. No.	Crops	Efficiency Index	Marketing Channels			
			I	II	III	IV
1	Rose	Shepherd’s Formula	10.43	13.06	11.67	16.25
		Acharya and Agarwal method	4.88	6.07	4.93	6.42
2	Gerbera	Shepherd’s Formula	9.78	11.23	11.18	14.60
		Acharya and Agarwal method	6.24	6.79	6.50	8.28
3	Carnation	Shepherd’s Formula	9.41	11.55	10.95	15.57
		Acharya and Agarwal method	5.59	6.29	5.77	7.03



## SWOC Analysis of Cut Flower Production

SWOC analysis of cut flower production was carried out to analyse the strength, weakness, opportunities and challenges of the cut flower production in the study area and it is described below.

### Strength

- ♦ The Hosur has diverse agro-climatic conditions with a scope for growing cut flowers. The three major hi-tech floriculture block in Hosur namely Dasarpalli, Talli and Madikeri have favourable climate for this purpose
- ♦ Production of cut flowers throughout the year is possible
- ♦ There is a scope for a good network of nurseries for producing planting material
- ♦ The spread and prevalence of new high tech technologies especially green house and drip irrigation is seen
- ♦ The farming community is dynamic and enterprising
- ♦ State government supports the cut flower growers through agri-export zone
- ♦ Huge demand supply gap exist in Hosur block which can be augmented by the expansion of area under greenhouse floriculture
- ♦ **Availability of labour at low costs**

Cut flower industry is basically a labour-intensive industry since the plants require 24 hours-a-day care and attention. The protected greenhouse system needs people to manage the production process at different stages. To meet this end, there is no dearth of unskilled labour in Hosur. In fact, there is over utilisation of labour in cut flower production in the study area.

- ♦ **Well established infrastructural facilities**

For the success of cut flower industry, availability of infrastructural facilities such as irrigation system, fertilizers, pesticides, testing labs, air-conditioners and refrigeration equipment are very important which is not a constraint in Hosur.

### Weakness

- ♦ **Poor airfreight capacity:** Currently there is a

shortage of air freight capacity especially during the peak period leading to a backlog at the airports. This could be a serious disadvantage for cut flowers.

- ♦ **Airport infrastructure:** Air cargo handling capacity and cold storage facilities for cut flower are minimal at the international airports.
- ♦ Majority of local farmers are dependent on loose flower production as cut flower production is price sensitive.
- ♦ Present trade is still in the growing stage.
- ♦ There is a lack of post-harvest management facilities like cold storage, pre-cooling and processing units.
- ♦ The marketing channels are not well developed.

### Opportunities

- ♦ There is an increasing demand within and outside the country.
- ♦ GOI in association with the state government promotes and facilitates the Agri Export Zones (AEZ).
- ♦ Large barren / rainfed areas could be utilized for the promotion of cut flowers.
- ♦ With ample agricultural land at its disposal and driven by the need to diversify its agriculture into more remunerative commercial crops, Hosur has a great opportunity for cut flower production.

### Challenges

- ♦ Several cut flower units operating in the urban fringe areas, especially in the Hosur region have already started facing frequent labour shortage and high labour wages in view of the wide range of more lucrative urban fringe jobs. Even in Madikeri and Talli regions, the cut flower growers have reported increasing labour problems particularly in wake of the extensive implementation of the National Rural Employment Guarantee Scheme.
- ♦ There are wide fluctuations in the market prices due to the demand supply gap.
- ♦ Price discovery mechanism with future trading does not exist.

**Constraints in Marketing of Cut Flowers**

The farmers were asked to elicit the problems faced by them relating to the various aspects of marketing of the major cut flower crops in the study region and it was subjected to analysis by using Garrett's ranking technique and the results are presented in the following tables.

**Marketing Constraints Faced by Sample Farmers**

The marketing constraints faced by the farmers in marketing the cut flowers are presented in the Table 6. The most important marketing constraint expressed by 54.95 per cent of farmers was price fluctuation. This was followed by seasonal demand as second marketing constraint (52.20 per cent), late payment by commission agents as the third constraint (52.05 per cent), lack of market information as the fourth constraint (49.69 per cent), lack of adequate cold storage facilities as the fifth constraint (45.60 per cent) and high transport cost as the sixth constraint by 45.49 per cent of the farmers.

**Table 6:** Marketing constraints faced by cut flower farmers

Sl. No.	Problems	Score	Rank
1	Price fluctuation	54.95	I
2	Seasonal demand	52.20	II
3	Late payment by commission agents	52.05	III
4	Lack of marketing information	49.69	IV
5	Lack of adequate cold storage facilities	45.60	V
6	High transport cost	45.49	VI

**Marketing Constraints Faced by Intermediaries**

The marketing constraints faced by the intermediaries in marketing the cut flowers are presented in the Table 7. The most important constraint faced by the intermediaries was lack of continuous supply of cut flowers as reported by 53.49 per cent of the intermediaries. The second major constraint ranked by the sample intermediaries was high transport cost (51.95 per cent). High cost of labour was ranked as the third constraint (49.59 per cent), lack of regular consumers was ranked as the fourth constraint (48.98 per cent), lack of storage facilities was ranked as the fifth constraint (48.77 per cent) and quick deterioration in quality was ranked

by 47.20 per cent of intermediaries as the sixth constraint.

**Table 7:** Marketing constraints faced by intermediaries

Sl. No.	Problems	Score	Rank
1	Lack of continuous supply of cut flowers	53.49	I
2	High transport cost	51.95	II
3	High cost of labour	49.59	III
4	Lack of regular consumers	48.98	IV
5	Lack of storage facilities	48.77	V
6	Quick deterioration in quality	47.20	VI

**CONCLUSION**

The marketing channel IV was the efficient marketing channel for all the three cut flower crops due to better pricing mechanism, lesser price spread due to the absence of intermediaries and better regulation. The marketing efficiency of different marketing channels for Rose, Gerbera and Carnation with both the efficiency measures showed that marketing channel IV was the efficient channel. The strength in cut flower production is the production of flowers throughout the year and the spread and prevalence of new high tech technologies. There is a good scope for the network of nurseries for producing planting material, the availability of labour at low cost and well established infrastructural facilities is feasible. The producers expressed that the non-availability of quality indigenous planting material was the most important constraint. The most important constraint identified by the Rose, Gerbera and Carnation growers was higher price fluctuation in flower market.

**POLICY IMPLICATIONS**

The price spread and marketing efficiency analyses showed that Channel- IV was found to have higher farmers share, lowest price spread and was efficient when compared to the other three channels, which indicated the need for reducing the number of intermediaries and also introducing interventions to limit the marketing costs and margin in Channel I, channel II and Channel III. Also, Channel- IV could be popularised among the farmers of the region. Establishment of co-operative marketing of cut flower growers may facilitate

direct marketing and may improve the bargaining power of farmers, in turn, may improve the farmers' share in consumer rupee. Higher price fluctuation was the major constraint in Rose, Gerbera and Carnation marketing as these cut flowers price was fluctuated between ₹ 60.00 per bunch and ₹ 160 per bunch. The price forecast of cut flowers is regularly communicated by the Action market of Bangalore to the farmers. Hence, the farmers in the region should take the benefit of action market forecast and also follow future trading either by adopting warehouse receipt method or by practicing Demat account to eliminate price risk.

## REFERENCES

- Balamurugan, L.K., Tamizh Jyothi and Samudhra Rajkumar, C. 2014. "Production, Post Harvest Handling and Marketing of Cut-Flowers in Tamil Nadu", *International Journal of Recent Scientific Research*, 5(11): 2117-2122.
- Kehar Singh and Virendra Singh. 2001. "Economics of Cultivation and Distillation of Damask Rose: A case study in Palampur (Himachal Pradesh)", *Indian Journal of Agricultural Economics*, 56(4): 696-707.
- Mohammed Aman, 2011. "Determinants of Technical Efficiency of Rose Cut-Flower Industries in Oromia Region, Ethiopia", *Journal of Economics and Sustainable Development*, 2(6).
- Mostafa Khaje Hassani and Mohammad Heydari 2014. "Calculation of Different Types of Efficiency for Greenhouses Producing Cut Flowers in The City of Pakdasht", *Arth Prabhand: A Journal of Economics and Management*, 3(7): 6-14.
- Puspha Saradathi, M. and Mrunalini Muddi, K. 2006. "Marketing cost and rice spread of Rose flower in Karnataka: A case study", *Indian Journal of Agricultural Marketing*, 26(12): 12-15.
- Raha, S.K. and Masuma Siddika. 2004. "Price spreads in cut-flower marketing: some evidence from Bangladesh", *Bangladesh J. Agric. Econ*, XXVII(2): 87-97.
- SajidaTaj, Muhammad Tariq Iqbal Khan., Mazher Abbas and Arshed Bashir. 2013. "Price spread and marketing margins of cut rose in Punjab, Pakistan", *Pakistan J. Agric. Res.*, 26(1).
- Sudhagar, S. 2013. "Production and Marketing of Cut flower (Rose and Gerbera) in Hosur Taluk", *International Journal of Business and Management Invention*, 2(5): 15-25.
- Surya Wanshi, S.D and Kahage, P.M.1979. "Production and Marketing of Roses in Western Maharastra", *Indian Journal of Marketing*, 10(4): 7.
- Thiranjangowda, B., Angadi, J.G. and Hireven Kangoudar, I.V. 2006, "Adoption and Marketing Pattern of Cut Flowers in Belgaum District", *Karnataka J. Agric. Sci.*,19(3): 603-608.

