



Production and Marketed Surplus of Loose Flowers in Winter Season in Punjab: A Case Study of Patiala District

Jaspreet Kaur, Research scholar,
Department of Economics, Punjabi University, Patiala

Abstract

Floriculture has recently emerged as a fast-growing sector in India. Many growers have switched to floriculture from a conventional cropping system because of its blooming scope. The present study is a modest attempt to examine the production and marketed surplus of loose flowers in Punjab. Primary data has been collected from 119 farmers of eight blocks of Patiala district of Punjab state during the winter season in 2015-16. To estimate the relationship between marketed surplus and production, regression analysis has been applied. The study reveals that all five farm categories, the total marketed surplus accounted for more than 94 percent of the produce. The regression analysis results show that the coefficients against the production, operational area, and proportion of area allocated to crop are statistically significant and positively related with the marketed surplus.

Keywords: Floriculture, Production, Marketed surplus, Marketable surplus.

India's agricultural sector has witnessed constant growth, with the horticulture sector as its main component, including vegetables, flowers, fruits, medicinal and aromatic plants, honey, spices, etc. After the green, white and blue revolution, Punjab farmers are heading towards a "Multi-Coloured Revolution", i.e., growing flowers for commercial purpose. Flower cultivation has caught the attention of growers to increase their income by selling them around big towns. The climatic conditions of Punjab are highly favourable for the production of fresh flowers and seed flowers. The total area under loose flowers and production was 1619 hectares and 12759 metric tonnes in 2016-17 in Punjab state (Annual Progressive Report, 2016-17). The areas around Delhi, Uttar Pradesh, and Punjab are recognized as

potential centres for flowers such as rose, chrysanthemum and gladiolus growing in India (Kumari and Srivastava, 2019).

The study of marketable surplus and marketed surplus is essential in agricultural development. Every agricultural commodity is mainly produced for sale in the market to earn some income in cash due to many other family requirements, viz, non-food items that are not satisfied through production on the farm. The entire production of crops is not meant for sale because some of these crops are also retained for seeds, home consumption, gifts and some portions are lost due to wastage/spoilage, etc. In this context, it is relevant to know the factors operating at the producer level, affecting the marketed surplus of loose flowers.

Marketable surplus represents the theoretical surplus available for disposal with the producer after his genuine family consumption requirements, payment of wages in kind, seed and spoilage, etc. It is the residual left with the producer after meeting the criteria for family consumption, farm needs and payment-in-kind to casual and permanent labour, artisans and others (Johlet *al.*, 1973). Marketed surplus is a part of the marketable surplus sold by the producer, not only the part available for disposal but also that part made available to the market from a marketing point of view. The producer sells irrespective of his needs for home consumption and other requirements (Johlet *al.*, 1973).

Objectives of the study:

1. To examine the production and marketed surplus of loose flowers at the farm level.
2. To identify the factors that influences marketed surplus.
3. To find out whether there exists an elastic relationship between marketed surplus and production.

In this research paper, production and marketed surplus of looseflowers concerning different farm categories, i.e., marginal, small, semi-medium, medium, and large farmers, have been calculated for the winter season in Patiala district of Punjab during 2015-16. Apart from this, the quantity retained of this flower and the wastage have also been analysed. Finally, the degree of elasticity of marketed surplus of flowers concerning their production, operational area, and proportion of area allocated to the crop is considered to analyse the marketed surplus.

Research Methodology:

To accomplish the study's objectives, primary data has been collected during the winter season (2nd half of February to April) from the Patiala district of Punjab state with a prepared questionnaire during 2015-16. A sample of 119 farmers who produced flowers has been purposively taken from 32 sampled villages/towns/cities of eight blocks, viz Patiala, Rajpura, Nabha, Samana, Bhunerheri, Patran, Ghanour, and Sanour of Patiala district. **Out of 119 loose, cut and seed flowers' producing farmers, 104 are involved in the cultivation of loose flowers.** For the calculation of the marketed surplus, farmers were classified into five farm categories, *i.e.* marginal (<1 hec), small (1-2 hec), semi-medium (2-4 hec), medium (4-10 hec) and large (>10 hec) based on standardized classification of Government of India. The calculation of marketed surplus is done by using the following formula:

$$\text{Marketed surplus} = \text{Total production} - \text{Total Retention} - \text{wastage.}$$

To estimate whether there is an elastic relationship between marketed surplus and production, the regression coefficient has been computed using the ordinary least square method (OLS).

Results and Discussions:

The value production, retention, wastage and marketed surplus of loose flowers in the winter season in the Patiala district have been given in Table 1.

Table 1
Production and Marketed Surplus of Loose Flowers in Winter Season of Marginal, Small, Semi-medium, Medium and Large Farmers in Patiala District (2015-16)
(Unit: Quintals)

Farm category	Frequency	Production		Retention		Wastage		Marketed surplus	
		Total	Per farm	Total	Per farm	Total	Per farm	Total	Per farm
Marginal	12	263.55	21.96	5.59 (2.12)	0.47	8.90 (3.40)	0.74	249.05 (94.49)	20.75
Small	16	708.90	44.31	14.89 (2.10)	0.93	22.68 (3.20)	1.42	671.32 (94.70)	41.96
Semi-medium	35	3268.80	93.39	33.70 (1.03)	0.96	100.33 (3.10)	2.87	3134.78 (95.90)	89.57
Medium	33	5936.60	179.87	65.52 (1.10)	1.99	166 (2.80)	5.03	5705.07 (96.09)	172.88
Large	8	6953.80	869.23	61.70 (0.88)	7.71	153 (2.20)	19.13	6759.09 (97.20)	844.89
Overall	104	17131.65	164.72	181.40 (1.05)	1.74	450.91 (2.63)	4.33	16519.31 (96.43)	158.84

Source: Field Survey, 2015-16, Note: Figures in parentheses are percentage values.

Table 1 shows that the total production and retention of loose flowers are 17131.65 quintals and 181.40 quintals, respectively, in the winter season in 2015-16. The total wastage and marketed surplus of loose flowers are 450.91 and 16519.31 quintals, respectively. The per farm production, retention, wastage and marketed surplus are 164.72, 1.74, 4.33 and 158.84 quintals. Overall, the sampled farmers sell 96.43 per cent in the market and retained 1.05 quintals of the produce approximately. As compared to retention wastage is a **more** influenced factor due to the sensitive and perishable nature of flowers, which adversely affects the marketed surplus. It has also been examined that marketed surplus experience a positive relationship with the size of holdings, i.e., an increase in the marketed surplus results from the increase in the size of the holding.

The information about different purposes of retention and wastage of loose flowers has been mentioned in Table 2.

Table 2
Quantity of Loose Flowers Retained and their Wastage in Winter Season in Patiala District (2015-16)
(Purpose-cum-farm category-wise)
(Unit: Quintals)

Farm category	Home consumption	Gifts to relatives	Seeds	Retention	Wastage	Total of retention and wastage
Marginal	0.81 (5.59)	1.38 (9.52)	3.40 (23.46)	5.59 (38.57)	8.90 (61.42)	14.49
Small	1 (2.66)	1.50 (3.99)	12.39 (32.98)	14.89 (39.63)	22.68 (60.36)	37.57
Semi-Medium	1.2 (0.90)	2.10 (1.56)	30.40 (22.68)	33.70 (25.14)	100.33 (74.86)	134.03
Medium	1.41 (0.61)	2.50 (1.08)	61.61 (26.61)	65.52 (28.30)	166 (71.70)	231.52
Large	1.09 (0.51)	2.40 (1.12)	58.20 (27.11)	61.70 (28.74)	153 (71.26)	214.70
Overall	5.52 (0.87)	9.88 (1.56)	166 (26.25)	181.40 (28.68)	450.91 (71.31)	632.31

Source: Field Survey, 2015-16

Note: Figures in parentheses are percentage values

Table 2 depicts that in the case of loose flowers, the total retention and wastage is 632.31 quintals. The percentage shares of total retention and total wastage are 28.68 and 71.31 per cent of the total retention and wastage.

Marketed Surplus and Production: Regression Analysis

To estimate whether there exists an elastic relationship between marketed surplus and production, the following log-linear relationship between marketed surplus and production has been fitted:

$$\log (\text{marketed surplus}) = a + b \log (\text{production}) + u_{it} \quad \dots (i)$$

Table 3
Degree of Elasticity of Marketed Surplus of Loose Flowers with Respect to Production, Operational Area and Proportion of Area Allocated to the Crop in Winter Season in Patiala District

Variables	Loose flowers		
	1	2	3
Production	1.01* (0.00)		
Operational area		0.91* (0.04)	
The proportion of area allocated to crop			1.01* (0.00)
Constant	-0.03	1.45	1.87
R ²	1.00	0.78	1.00
Degree of Freedom	103	103	103

Source: Sample Survey, 2015-16

Note: Figures in parentheses are the standard errors of the respective parameters.

*Significant at 1 per cent level of significance.

The estimated values of regression coefficient 'b' for loose flowers are positive and statistically significant. The magnitude of the regression coefficient is above unity, which means as the level of production rises, there is a tendency for marketed surplus to increase at a higher rate than that of increase in production. To capture the relationship between the marketed surplus and the operational holding, the following log-linear relationship has been fitted:

$$\log(\text{marketed surplus}) = a + b \log(\text{operational area}) + u_{it} \quad \dots (ii)$$

The ordinary least square method has been used to estimate the equation's regression coefficients (ii) in Table 3. The coefficients are positive and significant between the marketed surplus and operational area of loose flower in the winter seasons.

To verify the statistical validity of the relationship of marketed surplus and proportion of area allocated to the crop, the following log-linear relationship has been fitted:

$$\log(\text{marketed surplus}) = a + b \log(\text{proportion of area allocated}) + u_{it} \dots (iii)$$

As expected earlier, there is a positive and statistically significant relationship between marketed surplus and the proportion of area allocated to the crop. In the case of loose flowers, the estimated values of regression coefficient 'b' are above unity. It means that the marketed surplus increases faster than the increase in the proportion of area allocated.

Summing up

To recapitulate, it can be concluded that a significant portion of the total produce of loose flowers has been sold in the market by all five categories of farmers. However, the same quantum varies from farmer to farmer depending upon the size of holding, per hectare yield and variability in consumption pattern. Moreover, the massive wastage of flowers is the dominant factor that affects the marketed surplus negatively. The analysis of the degree of elasticity of loose flowers reveals that the coefficients against the production, operational area, and proportion allocated to crop are statistically significant and positively related to the marketed surplus.

References:

"District-wise area, production and yield of flowers in the Punjab state (2016-17)", *Annual Progressive Report*, Department of Horticulture, Punjab.

Johl, S.S.; John, R. Moore; and Khusro, A.M. (1973). *Indian Foodgrain Marketing*, Prentice-Hall of India Pvt. Ltd., New Delhi.

Kumari, J. and Srivastava R. (2014). "India can emerge as global competitor in flower trade", *Floriculture today*, pp.36-40.

<https://pib.gov.in>. (Ministry of Agriculture & Farmers Welfare, GoI.)