Market Integration, Competitiveness and Efficiency in Urban vs. Rural Markets: Male and Female Flower Trading Farms in West Bengal

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[This paper seeks to measure the magnitude of inter temporal and spatial variations in the prices of flower crop between same type of marketing institutions as well as different types of marketing institutions and to assess the competitiveness and efficiency of marketing in the rural and urban trade markets of flower crops in West Bengal in Indian context where female act as important marketing agents. This study suggests that trade market for most of flower crops are not efficient in the area we studied. However, price per unit for all flower crops is lower in village level markets, and female marketing agents offer lower price for all flower crops in all types of markets. Also, the marketing efficiency for some flower crops is somewhat higher for female marketing agents.]

Floriculture is an important area of horticulture, comprising large groups of fruits, vegetables, mushrooms, flowers, plantation crops including cashew, spices, medicinal and aromatic plants etc. for potential diversification and value addition in the primary sector. The diversity of physiographic climate and soil characteristics and enormous biodiversity enable India to grow a large variety of flower crops. In India ,a large number of people earn their livelihood either by producing or marketing of flowers.

Floriculture plays an important role in the Indian economy by augmenting rural employment/empowerment of backward women and earning foreign exchange (Goswami, 2009:85). About 80% of all female workers are employed in agriculture, whereas only 70% of rural men are in agriculture. Thus agriculture is the single most important contribution of employment in the rural sector and more so to the rural women (Vepa, 2005.p2565). The census 2001 data show that 39% of the total workers in farming (cultivators plus agricultural labour) are women and participation of women is relatively high in non crop agricultural activities (ibid: 2563.).

Despite considerable research for assessing the degree of competitiveness and efficiency of marketing between men and women marketing agents in some areas, there is very little research on this issue in the domestic trade market of flower crop. The studies that usually appear in flower crop marketing do not demarcate between men and women (Kiran et.al. ,2007; Agro-Economic Research Unit ,2007; Agro economic Research Unit ,2003; Maerterns and Johan ,2009). Sarker and Chakraborty's (2005) study based on 5 districts of West Bengal reveal that ,in general, marketing efficiency decreases with the increase of number of intermediaries in the marketing channel. High price spread is the common phenomenon, because of concentration of market intermediaries. One of important findings of this study is that the trade market of flower crop in West Bengal is not very efficient in nature and not implied an orderly marketing system for some categories of major commercial flower crops (rose, tuberose and bel) produced in alluvial zone in West Bengal, because the farmer - producers' interest for fair price of those flowers are not supported during lean season. This paper seeks to measure the magnitude of inter temporal and spatial variations in the prices of flower crop between same type of marketing institutions as well as different types of marketing institutions and to assess the competitiveness and efficiency of marketing in the domestic trade markets of flower crops in West Bengal where female act as important marketing agents. The underlying hypothesis is that flower marketing system is efficient, competitive and closely integrated in terms of price movements, and marketing efficiency is higher for female marketing agents compared with man, and rural markets are more efficient than urban markets in all flower crop markets.

This paper is organised as follows. A short review of the domestic flower trading market of West Bengal appears in Section II. Section III presents the data set and methodology. The results are contained in Section IV. Section V concludes.

2. Flower Trading Markets in West Bengal

West Bengal is India's third largest flower producer after Karnataka and Tamilnadu in the production of cut flowers. West Bengal produces flowers like rose, tuberose, Marigold , gladiolus, gardenia, carnation, gerbera, chrysanthemum, which have vast scope of its external

and internal demand .The area under flower crop in West Bengal was 9.8 thousand hectares   in 1996-97, but in 2002-03, it stood at 17.33 thousand hectares, registering around 9.8 per cent increase of compound growth rate per annum between 1996-97 and 2002-03, whereas production growth was around 16.54 per cent during that period (Government of West Bengal, 2001, 2004). Though the history of growing flowers and ornamental plants is too old, the commercial trade on these have generated recently, mainly, due to impact of economic reform (1991-92).

Intra-state flower trading market of West Bengal is of four types- primary, secondary, sub and metropolitan. It appears in the following framework.

(Intra-state flower trading Market of West Bengal)
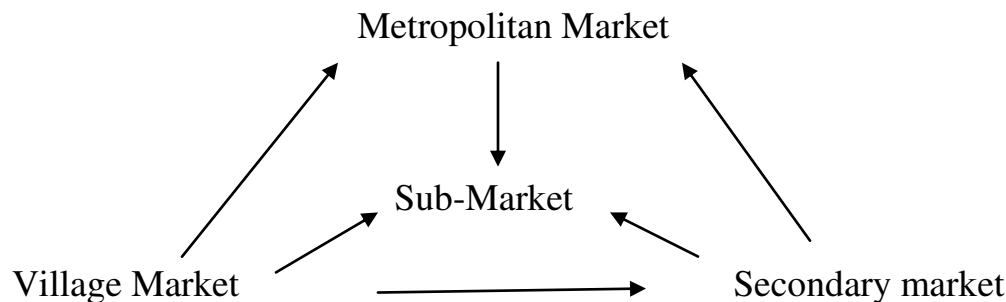
Primary village level markets usually exist at the village level where the flower crop is originally produced, and directly connect the trade flow to the secondary market or/ and metropolitan market. Secondary markets, which gather larger quantity of flowers than primary markets, usually sit nearby the important railway station or bus terminus, and directly connect the trade flow to the metropolitan market. The sub markets sit usually at different districts towns, sub divisional towns and other important town areas. The character of primary and secondary markets is that a considerable portion of flowers of these two markets are sent to metropolitan market mainly for sale, whereas the marketing agents of sub markets usually purchase flower crop from metropolitan market or secondary market or primary market and sell those crops in the former markets (sub-markets). In metropolitan market, which makes a close link to all other types of market, the daily volume (quantity) of sales and purchase of different types of commercial flower crops is the highest of all types of markets.

Also important to mention that five districts- Midnapore, Nadia, Howrah, 24 parganas (North) and 24 parganas (South)- have higher proportion of area under commercial flower crops in alluvial Zone and Darjeeling districts produce commercial flower crops in hill Zone in West Bengal(ibid). We consider all our samples from alluvial Zones because of the close proximity (nearest in distance) of the samples from our residence.

3. The Data Set and Methodology

The Data Set

To examine the stated objectives field survey (primary source) is the main source of data collection for this study, as no published data relating to the marketing agents of the flower markets under study are available from any secondary source. Data collected from the sample respondents were taken up during the period from 1stApril 2006 to 31st March 2007. Although this paper considers sample from 600 marketing agents belonging to village level and urban markets (sub market and metropolitan market), the broader study undertook household survey to 800 flower crop marketing agents-400 female marketing agents (core group) and 400 male marketing agents (control group) - taking samples from all types of markets under five districts namely Kolkata, 24 parganas (North), Nadia, 24parganas (South) and Midnapore of West Bengal. This study considers stratified random sampling method. The procedure of selection is in the following lines.

Firstly, we consider all our samples from alluvial Zones because of the close proximity (nearest in distance) of the samples from our residence. Secondly, we selected two markets of each type from three types of market (village level , secondary and sub markets)under five districts including Kolkata, with the principle that those markets have higher number of marketing agents than other markets under each district, and one metropolitan market (Mallikghat) from Howrah in Kolkata. Worthwhile to mention that Mallikghat flower market is the highest metropolitan market of eastern India, because the daily volume (quantity) of sales and purchase of different types of commercial flower crops is the highest of all flower markets in

eastern India(ibid). Moreover, the inter-state trade and inter-country trade of flower crop are executed from Mallikghat flower market in Kolkata.

The village level markets selected for final survey are Puranagar from Nadia district and Gaighata from 24 parganas(S) district. Similarly, the secondary level markets selected for final survey are Thakurnagar from North 24 parganas district and Deolti from Midnapore districts; submarkets selected from Kolkata are New Market and Sealdah Market; the only metropolitan market selected for final survey is Mallikghat flower market, the highest flower market (in quantitative flow of business) in eastern India.

Thirdly, selection of the sample of marketing agents of core group (female marketing agents) has been done by the method of SRSWOR depending on pilot survey on total number of marketing agents in each market selected for final survey. The common features that appears from pilot survey of this study are: i) the prevalent marketing agents (or market middlemen), who act as sellers of flowers in different types of market in the area we surveyed, are local wholesaler (local *paikars*), secondary (local) wholesalers, market wholesalers and retailers; ii) the significant majority of women marketing agents almost(about 78 per cent cases in an average)act as retailers in all categories of flower crop markets, whereas the importance of local wholesaler(local *paikars*), who act as about 62per cent cases in an average, is the most important for male marketing agents (control group) in all categories of flower crop markets; iii) the prevalent flower crops offered for purchase and sale in the area we surveyed is of seven categories: Rose, Tuberose, Bel, Jui, Marigold, Gladiolus and Chrysanthemum.

Finally, female marketing agents' households (core group) are randomly selected (SRSWOR) from the population of each selected market based on pilot survey with two principle characteristics.(i)We took samples for two categories of marketing agents – retailers and local wholesalers, because they are the most prevalent marketing agents in the flower crop markets in our surveyed area that appears from pilot survey. (ii) Also important is that we took samples from pure marketing agents, i.e. marketing agents who independently (not jointly) act as retailer or local wholesaler.

Samples for core group (female marketing agents' households) in each market were 50, comprising 25 samples from retailers and 25 from market wholesalers. As each type of market comprises two markets, the number of samples for each type of market is 100-50 samples from retailers and 50, local wholesalers. However combining all samples together total samples for core group (female marketing agents' households) in four types of market are 400---100 from village level market (50 from Gaighata and 50 from Puranagar), 100 from secondary level markets (50from Thakurnagar and 50 from Deulti), 100 from sub markets (50 from New market and 50 from Sealdah) and 100 from Metropolitan market (Mallikghat flower market at Howrah in Kolkata).

Similarly, 400 pure male marketing agents' households (control group) are randomly selected(SRSWOR) from the population of each selected market based on pilot survey taking equal number of samples in keeping with core group selected from each market.

But ,more importantly, as this paper attempts to study the competitiveness and efficiency between male and female marketing firms in rural and urban flower trading markets , data have been collected from 600 pure marketing agents- 300 female marketing agents(100 from village level market , 100 from sub markets and 100 from Metropolitan market)and 300 male marketing agents(100 from village level market , 100 from sub markets and 100 from Metropolitan market)- with an intensive field enquiry through a scheduled questionnaire.

Methodology

In order to study the competitiveness and efficiency of marketing of flower marketing agents related to this study proportions, simple percentage analysis, averages etc. have been used in tabular analysis. In this perspective the following measures have been introduced.

As regards efficiency is concerned, efficiency, in quantitative term, is measured as a ratio of output to input. Markets are efficient when the ratio of the value of output to the value of input throughout the marketing system is maximized. One of the forms of marketing efficiency is pricing efficiency. The goal of pricing efficiency is efficient resource allocation. Activities that may improve pricing efficiency are improvements in market news and information and

competition. Competition plays a key role in fostering pricing efficiency.It is said that most of the conditions of efficiency in marketing are best satisfied by perfectly competitive conditions. The closer the actual conditions to perfect competition, the stronger would the possibilities for minimizing wastes and exploitation and the greater the tendency for a uniform price to prevail over the entire market area.

Price spread over different markets: Following Ashok Rudra (1992: 62) we calculated price spread over different markets and over different marketing agents in our study. The symbols $\theta \pm \delta$ means the following: The midpoint of the prices of flower crops to the different marketing agent in a given market is θ, the highest observed value is $\theta + \delta$ and the lowest observed is $\theta - \delta$. $\pm \delta$ has given an idea about the intra market price variation. Comparison of the values of θ for different flower crops in the same market and for different markets for the same flower crops gives some idea about the inter market and intra-market price variations. The hypothesis of Rudra's (1992) calculation of price spread over different markets and over different marketing agents is that if the range of price variation for the homogenous product under different markets(excluding marketing costs) in any particular marketing agent as well as inter- marketing agents for the same period is not far from uniformity, the market of the particular homogeneous product becomes closer to perfect competition .As data related to agricultural inputs and outputs are usually short term in nature in the developing economies like India, Rudra's (1992) estimate seems to be more pertinent in determining the competitiveness among agricultural farms based on such agricultural data.

Producer's share in consumer's price (in percentage) = $(Pp/P_c)*100$, where p_p is the price received by the producer and p_c is the price paid by the consumer. The price received by the producer is estimated as sum of production cost of the producer and profit of the producer,

Higher (lower) the producer's share in consumer's price (in percentage), higher (lower) is the efficiency of marketing.

Share of middlemen's profit (Marketing Margin) in consumer's price (in percentage) (MM/Pc)*100, where MM is the marketing margin. Higher (lower) the middleman's profit in consumer's price (in percentage),lower (higher) is efficiency of marketing.

Marketing efficiency indicates the movements of goods from producer to consumer at the lowest possible cost with the maximum satisfaction of the consumer .Marketing efficiency of individual flower crop is calculated with the measure of modified marketing efficiency (Sundaravaradanajan and Jahanmohan, 2002, Agro Economic Research, 2003).

Modified Marketing efficiency (MME) =Pp/(MC+MM) where MC is the marketing cost and MM is the marketing margin**.** Higher (lower) the value of Modified Marketing efficiency higher (lower) is the efficiency of marketing.

Making Margin of the middlemen

The general expression for estimating the margin for intermediaries is given below.

Intermediaries margin =Gross Price(selling price) – Price Paid(buying price) –Cost of Marketing

4. Results

The socio-economic profile of the sample villages is presented in Table 1. Some of important characteristics of the Table are: i) the considerable majority of men and women marketing agents' households in all types markets (more than two-thirds of households in all markets) belong to SC or ST. ii)   Majority of women retailers' households in village level market live under BPL category, as per BPL Survey 2005, Department of Panchayats and Rural Development, Government of West Bengal. Even about 42 per cent of women retailers' households in the sub-level market live under BPL category. However, the incidence of BPL households is much higher in village level market than that of urban markets- sub and metropolitan markets. As regards the educational status is concerned, more than two-third of both male and female marketing agents in all types of market has received education up to primary level. All these facts seem to suggest that both women and men marketing agents' households possess low social status, but from economic point of view women marketing agents'

households, in particular, have much poorer economic conditions compared with their male counterpart, and women retailers' households are more badly off than male wholesalers' in almost all types of market in general and village market in particular. Therefore dependence on the trade market of flower crop particularly for female marketing agents under this sample, in particular, is expected to have a substantial impact on the livelihood of those households.

The phenomenon whether prices vary across different markets and over different marketing agents (or market middlemen) in a way which is different from uniformity during lean and peak seasons of the year are given in Tables 2 to 8.Following Rudra (1992) we have calculated price spread over different markets, different marketing agents and among sample male and female marketing agents under our study. Some important features that appear in Tables 2-8 are

1)   Price per unit offered by marketing agents for all flower crops under study is the lowest in village level markets followed by metropolitan market and sub markets-Urban markets.

2)   Female marketing agents acting as retailer or local wholesaler (local *paikar*) offer lower price for all flower crops in all markets compared with male marketing agents.

3)   Local male and female wholesalers offer lower price for all flower crops in all markets than retailers.

4)   Inter market (intra-market) price variation is not so far from uniformity in any particular marketing agent and inter marketing agents during both lean and peak seasons[1] for Tuberose(Table 3)and Gladiolus (Table7) and during peak season for Rose (Table 2), whereas for other flowers Bel (Table 4), Jui (Table 5), Chrysanthemum (Table 8) , Marigold(Table 6) during both peak and lean season and for Rose during lean season (Table 2), the range of price variation under different markets is far from uniformity in any particular marketing agent and inter -marketing agents.

It is difficult to find from this study that the range of price variations for most of the flower crop within different markets or intra-market for the same period (lean or peak season) is not far from uniformity in any particular marketing agent and also within different marketing agent for

both female and male category. However inter-market (intra-market) price variation for Tuberose and Gladiolus during both peak and lean seasons, and Rose during peak season is not so far from uniformity in any particular marketing agent and inter marketing agents for both female and male category. Thus more competitive and closely integrated market structure of flower crop in terms of price movement seems to prevail in the market of Tuberose and Gladiolus during both the lean and peak seasons and that of Rose during peak season in all types of markets where female, the core group of our study, act as marketing agents in those market.

We now present the index of modified marketing efficiency, producer's share in consumer's rupee and traders' profit margin in consumer's rupee (Tables 9 to 11). Tuberose and Gladiolus during both lean and peak seasons and Rose during peak season have higher producers' share in consumers' rupee, higher modified marketing efficiency and lower traders' profit margin in consumers' rupee compared with other flower crops. Such a phenomenon does prevail for both female and male marketing agents under study.

These findings do not fully support our hypothesis because flower marketing system for most of the flower crops is inefficient. Although the trade market of all flower crops where female act as important marketing agents under our study are not efficient, competitive and closely integrated in terms of price movements for most of the flower crops, the trade market of tuberose and gladiolus during both lean and peak seasons and rose during peak seasons are more efficient, competitive and closely integrated in terms of price movements compared with other flower crops. As regards the extent of marketing efficiency is concerned, modified marketing efficiency is somewhat higher for female marketing agents compared with their male counterpart, and rural markets are more efficient than urban markets in almost all flower crop markets .These facts support our hypothesis. Also important is that a general phenomena arises from Tables9-11 is that during lean season, the MME and producer's share in consumers rupee for almost all flower crops is much low as compared with its lean season.

5. Conclusions

This study lends credence to the fact that rural markets shows somewhat higher efficiency than urban markets , and the extent of modified marketing efficiency for some flower crops is somewhat higher for female marketing agents in relation to men. However the trade market for most of flower crops are not efficient in the area we studied. But efficient marketing system is very essential for accelerating production. It makes higher producers' profit in consumer's rupee which influences farmer's decision in allocating area under a particular crop in a particular time period. Therefore more competition in the trade of traditional flower crops needs to be introduced. Mini and Small assembling centre may be established in private or comparative sectors in flower producing areas, which will save the cost of transportation in assembling labor charges and distribution phases.

The study also reveals that during lean season, the MME and producer's share in consumers rupee for almost all flower crops is much low as compared with its lean season. This may cause the gradual diminution for farmer's decision in allocating area under particular crop in a particular time period. So emphasis should be given for adequate storage facilities and the expansion of inter-state, intra-state and inter –country trade of flowers, particularly, during lean season when producers incur loss. Co-operative marketing system can be encouraged in this regard. Remunerative prices should be assured to the flower growers during lean season; otherwise, the desired growth of flower production as well as momentum of flower trade will be diminished gradually. Thus Government induced market activities, co-operative marketing system, better information and storage structure may help in overcoming the deficiency of marketing system of flower crops.

[This paper is a part of PhD. works of the first author. However, the usual disclaimers apply]

Notes

1. Prices for all flower crops are usually higher for peak seasons than that of their lean period. But lean or peak seasons for all crops are not same. However during *pujas* and national festivals the price for most of the crops under our study becomes usually high.

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Table 1: Socio-Economic Characteristics of Sample Households

Types of market/ Types of marketing agents	Average size of Households	% of HH Belonging to SC and ST	% of HH Illiterate	% of HH Primary Education	Average size of Land Holding(acres)	% of BPL Households[+]
Village Level						
Retailer	4.68	92	6	80	0.16	72
	(5.27)	(84)	(10)	(84)	(0.46)	(28)
Local wholesaler	4.72	87	4	82	0.12	55
	(5.22)	(84)	(12)	(78)	(0.53)	(12)
Sub-Market						
Retailer	3.89	80	4	71	0	42
	(4.45)	(72)	(0)	(76)	(0.36)	(10)
Local wholesaler	4.18	86	5	78	0.14	17
	(4.61)	(78)	(2)	(76)	(0.480	(5)
Metro.Market						
	3.86	76	2	68	0	0
Retailer	(4.18)	(68)	(2)	(72)	(0.22)	(0)
Local wholesaler	4.12	73	6	81	0	0
	(4.10)	(76)	(8)	(74)	(0.41)	(0)

Source: Field survey.   Note: Figures within ( ) indicate values for male marketing agents.

*Secondary Level Marker; **Metropolitan Market; + As per BPL Survey 2005, Department of

Panchayats and Rural Development, Government of West Bengal.

Table 2:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season prices of Rose (100 flowers).   mid-point and range

| | Peak season Prices(in Rs) offered by | | | | Lean season Prices(in Rs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	100±3	97±3	96±4	95±3	45±15	42.50±12.50	41.50±8.50	40.50±9.50
Sub Market	175±6	170±4	165±4	162±6	85±15	80±16	48±12	45±10
Metropolitan Market	140±5	114±4	136±4	130±3	50±10	45±10	43.50±11.50	40±15

Source: field survey

Table 3:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season prices of Tuberose (kg).   mid-point and range

| | Peak season Prices (inRs) offered by | | | | Lean season Prices(inRs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	70±5	67±3	65±5	62±3	23±3	20±3	20±4	17±4
Sub Market	90±3	87±4.50	85±3	83±2	45±3.50	42±4.50	41±3	38.5±3
Metropolitan Market	75±5	72±3	72±5.50	70±5	30±3	27.80±2	21±2.50	20±1.80

Source: field survey

Table 4:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season

prices of Bel (kg).   mid-point and range

| | Peak season Prices (inRs) offered by | | | | Lean season Prices(inRs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	80±10	77±9	75±10	72±8	32±7	31±9	27±5	25±5
Sub Market	95±15	92±14	90±15	86±14	40±8	38.50±9.50	36±6.50	33±7.50
Metropolitan Market	90±10	81±13	83±12	77±11	30±7	28.50±5.50	25±5	23±7

Source: field survey

Table 5:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season

prices of Jui(kg).   mid-point and range

| | Peak season Prices(inRs) offered by | | | | Lean season Prices(inRs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	85±15	82.50±13.50	80±15	77±13	38±8	36.50±9.50	35±5.50	33±7
Sub Market	100±15	97±14.50	95±12	94±13.50	55±10	53.50±8.50	42±9	40±7
Metropolitan Market	94±10	92±8.50	88±12	85.50±9	41±9	39±8	36±7	35±5

Source: field survey

Table 6:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season prices of Marigold (kg).   mid-point and range

| | Peak season Prices(inRs) offered by | | | | Lean season Prices(inRs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	35±5	33±7	30±8	27±6.50	12±3.50	10±4.50	9±3.50	8.50±2.50
Sub Market	55±8	52±10	53±13	51±12	30±5.50	25±4	14±1.50	13.50±1
Metropolitan Market	43±7	39±8	35±7	33±6.50	12±4.50	10±3	10±3	9±2.50

Source: field survey

Table 7:Inter (Intra) market , Inter (Intra) marketing agents variation in peak season and lean season prices of Gladiolus (dozen spikes).   mid-point and range

| | Peak season Prices (inRs) offered by | | | | Lean season Prices(inRs) offered by | | | |
| | Retailer | | Local wholesaler | | Retailer | | Local wholesaler | |
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	57±5	54±4.50	52.50±4	52.50±3	33±3.50	30±4	19±3.50	17±3.50
Sub Market	70±5	68±6	65±4.50	63±4	40±3.50	37±2.50	24±3	21±3.50
Metropolitan Market	65±6	62.50±4.50	57±3.50	55±3	34±3.50	32.50±3	21.50±4	20±3

Source: field survey

Table 8: Inter (Intra) market, Inter (Intra) marketing agents variation in peak season and lean season prices of Chrysanthemum (dozen flowers).   Mid-point and Range

	Peak season				Lean season			
	Prices (in Rs) offered by				Prices (in Rs) offered by			
	Retailer		Local wholesaler		Retailer		Local wholesaler	
Type of market	Male	Female	Male	Female	Male	Female	Male	Female
Village Level Market	55±11	52±8.50	51.50±7	50±5.50	19±6.75	16±4	15.50±3	14±2.50
Sub Market	67±13	63.50±8	65±11	64±9.50	32±8	30±6.50	26±4	24.50±5
Metropolitan Market	62±10	60±9.50	57±8.50	55±7.5	27±6	24.50±6.20	17±4.50	15±5

Source: field survey

Table 9: Indicators of Marketing Efficiency in Village level Market for male and female marketing agents.

| name of Flowers | Producer's share In Consumer's rupee (in percentage) | | | | Trader's profit (marketing margin) in consumer's rupee (in percentage) | | | | Modified Marketing Efficiency | | | |
| | Peak Season | | Lean Season | | Peak Season | | Lean Season | | Peak Season | | Lean Season | |
	M	F	M	F	M	F	M	F	M	F	M	F
1)Rose(100 Flowers)	55.4	56.8	39.8	41.4	31.2	30.5	38.1	36.8	1.2	1.3	.66	.70
2)Tube rose(KG)	42.2	45.3	39.0	43.1	41.5	38.6	38.8	33.9	.73	.82	.64	.75
3) Bel (KG)	23.5	25.2	18.6	18.9	48.7	47.9	59.0	58.5	.31	.33	.22	.23
4)Jui(Kg)	29.4	30.7	29.1	29.5	48.0	48.2	49.1	48.9	.41	.44	.41	.41
5)Marigold(Kg)	14.2	15.2	11.3	12.6	50.9	50.1	54.9	53.2	.16	.17	.12	.14
6)Gladiolus (Dozen Spike)	38.6	40.3	31.5	33.9	37.3	36.1	36.0	34.4	.61	.67	.46	.51
7) chrysanthemum (Dozen Flowers)	19.2	20.5	13.0	13.5	47.4	47.2	54.3	53.1	.23	.25	.15	.15

Source: Field Survey

Table 10: Indicators of Marketing Efficiency in sub- Market for male and female marketing agents.

Name of Flowers	Producer's share In Consumer's rupee (in percentage)				Trader's profit(marketing margin)in consumer's rupee (in percentage)				Modified Marketing Efficiency			
	Peak Season		Lean Season		Peak Season		Lean Season		Peak Season		Lean Season	
	M	F	M	F	M	F	M	F	M	F	M	F
1)Rose(100 Flowers)	42.7	43.9	37.4	38.7	34.2	33.6	31.0	29.4	.74	.78	.59	.63
2)Tube rose(KG)	4.8	47.1	38.1	40.0	36.7	34.5	36.0	34.5	.81	.89	.62	.67
3)Bel(KG)	30.0	31.2	20.0	21.5	48.4	47.2	43.9	40.8	.42	.45	.25	.27
4)Jui(Kg)	34.6	36.1	33.8	35.1	43.5	42.2	37.8	36.7	.53	.56	.51	.54
5)Marigold(Kg)	16.8	17.3	15.9	18.3	47.6	46.9	39.2	33.2	.20	.20	.19	.22
6)Gladiolus(Dozen Spike)	34.7	35.4	24.1	26.0	39.5	38.4	40.1	36.6	.52	.56	.31	.35
7)Chrysanthemum(Dozen Flowers)	16.7	17.8	15.4	17.2	52.9	51.5	51.3	48.6	.20	.21	.18	.20

Source: Field Survey

Table 11: Indicators of Marketing Efficiency in Metropolitan Market for male and female marketing agents.

name of Flowers	Producer's share In Consumer's rupee (in percentage)				Trader's profit (marketing margin in consumer's rupee (in percentage)				Modified Marketing Efficiency			
	Peak Season		Lean Season		Peak Season		Lean Season		Peak Season		Lean Season	
	M	F	M	F	M	F	M	F	M	F	M	F
1)Rose(100 Flowers)	50.8	52.8	41.4	42.8	35.8	33.6	34.2	33.8	1.0	1.1	.70	.75
2)Tube rose(KG)	39.0	40.7	29.9	32.0	38.5	36.1	42.2	40.4	.63	.68	.43	.47
3)Bel(KG)	27.7	28.9	17.9	19.5	45.8	45.7	46.3	45.3	.36	.40	.22	.24
4)Jui(Kg)	26.9	28.1	25.7	27.5	51.5	51.5	54.1	52.5	.39	.39	.34	.37
5)Marigold(Kg)	16.2	17.2	14.2	15.7	47.7	48.1	49.7	49.4	.19	.20	.16	.18
6)Gladiolus(Dozen Spike)	35.3	37.1	33.6	35.7	36.7	35.7	34.8	32.5	.54	.59	.50	.55
7)Chrysanthemum(Dozen Flowers)	19.1	20.4	8.82	9.6	44.3	43.2	47.8	50.1	.23	.25	.09	.10

Source: Field Survey