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Supply chain analysis of cut roses in Pune region of Maharashtra

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Abstract

India has a long tradition of floriculture production. The social and economic aspects of flower growing were, however, recognized much later. With changing life styles and increased urban affluence, floriculture has assumed a definite commercial status in recent times. Cut flowers either cultivated in open field or in a protected environmental condition such as greenhouses. Among the different colours of cut roses, red coloured roses have maximum demand all over the world. The study was conducted at Talegaon Floriculture Park Pune. In all 25 functional and export oriented units were studied. The study brought out that, Passion, Bordo, Gold strike varieties of cut roses were having great demand in exports. Almost 84% cut roses producers have adopted the most of the post harvest management practices, There are two major marketing channels in study area for export of cut roses viz, Channel I – Producers- Exporter-Importer / Consumers and Channel II – Producers- Importer- Consumers. India should focus on the major markets like UK, Malaysia, New Zealand and Australia for exploring and capturing a major share in those markets as there is a vast potential for cut roses in future also. The export norms need to be assessed for finding the reasons for decline in share. The study suggested that cut roses producers should be made aware about the export specifications and the grading should be done as per the standards in scientific way with use of improved machineries to trap the more export markets with quality produce. Producers of Floriculture Park, Talegaon should adopt the concept of cluster farming in order to export the cut roses collectively and making the provisions for the common infrastructural facilities such as grading machines, cold storage with pre cooling chambers and refrigerated vans for transits. It is a need of time to strengthen producers association for export orientation scene. The efforts should be made to identify unexplored markets with higher potential for cut roses export in different countries and tie up them. The government should rectify the existing procedural formalities and re-appropriate as producer friendly. As the cut roses production is capital intensive business, the government should support the cut roses producers by providing requisite loan at affordable rate of interest.

Keywords: Cut flowers, export, varieties, Floriculture Park, marketing channel, post-harvest management, adoption go technology

Introduction

India has a long tradition of floriculture. References to flowers and gardens are found in ancient Sanskrit classics like the Rig Veda (C 3000-2000 BC), Ramayana (C 1200-1300 BC), Mahabharata (prior to 4th Century BC), Shudraka (100 BC), Ashvagodha (C 100 AD), Kalidasa (C 400 AD) and Sarangdhara (C 1200 AD). The social and economic aspects of flower growing were, however, recognized much later. The offering and exchange of flowers on all social occasions, in places of worship and their use for adornment of hair by women and for home decoration have become an integral part of human living. With changing life styles and increased urban affluence, floriculture has assumed a definite commercial status in recent times and during the past 2-3 decades particularly. Appreciation of the potential of commercial floriculture has resulted in the blossoming of this field into a viable agri-business option. Availability of natural resources like diverse agro-climatic conditions permit production of a wide range of temperate and tropical flowers, almost all through the year in some part of the country or other. Improved communication facilities have increased their availability in every part of the country. The commercial activity of production and marketing of floriculture products is also a source of gainful and quality employment to scores of people.

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Flowers have gained an important position in human life. The spectrum of colours and fragrances of these flowers do not just add value to nature but also refreshes mind of people. Various feelings can be effectively expressed by flowers than any other ways. At every stage of human life cycle, flowers are considered to be an integral part. This leads to increase in demand for various flowers worldwide. Hence, rapid makeover of floriculture is seen in recent years. Many countries are now focusing a floricultural sector as a cash cow. Export turnover in this sector is gaining a major share in economies of various countries. Floriculture industry in India is a booming industry. The advancement in this field and modernization giving it an industrial outlook. Steady growth in the worldwide demand, higher per unit production and improved quality product has given export oriented status to the cut flowers and made it a lucrative business. The traditional open field cultivation of the various flowers is now getting replaced by modern protected cultivation in greenhouses. In India, the trend of commercial floriculture for the export as well as domestic purpose is increasing. Amongst the various flower crops cultivated in the greenhouses, cut flower roses has a great demand.

Cut flowers-meaning

Floriculture is a branch of horticultural science dealing with the cultivation of various flowers, ornamental flowering plants and foliage. They are either cultivated in open field or in a protected environmental condition such as greenhouses. Cut flowers are considered as part of flowering plant; mainly inflorescence with stem devoid of roots of the plant. The fresh cut flowers are used for various purposes like bouquets, decorations for ceremonies and for expressing the feelings towards the people. Various flower crops are grown as a cut flower *viz.* Rose, Gerberas, Carnation, Anthurium, Orchid, etc. These flowers when cultivated in such controlled conditions gives higher per unit yield as well as superior quality. Among these flower crops, Rose (*Rosa indica*) has a wide area under coverage and higher demand throughout the world. It has a various uses ranging from decorative purpose to the medicinal uses. The various shades of colours, mild fragrance are the important characteristics of the rose. The rose is considered to be the symbol of love and care, hence having a huge demand during the valentine day and rose day. There are various varieties of roses having various colours which are cultivated either in open field or in the polyhouses. Generally, the cut roses of red, pink, yellow, white and orange colour are preferred. The varieties *viz;* Bordo, Top red, Grand gala, First red, Tropical passion, etc. are cultivated for production of red cut roses, while for pink roses, the varieties such as Noblesse, Ravel, Amroza, Buggati and for yellow colour, the varieties like Gold strike, Top sun, Golden gate, etc. are grown. The varieties *viz,* Bianca, Hollywood and Seriare preferred for white cut roses, whereas, for orange cut roses, the varieties *viz;* Tropical amazons, Eldorado are preferred to grow.

Among the different colours of cut roses, red coloured roses have maximum demand all over the world. Each colour is symbolized to different emotions and thus, has varying demand. In India, larger area is under the cultivation of red and yellow roses. Many new varieties are being developed and commercially cultivated as cut roses. Bicolour roses were developed which are having higher price in markets. Indian outlook towards the floriculture has changed in recent years. Export oriented commercial cultivation of many flowers is a major business of many people in India.

Floriculture Scenario

World floriculture market is concentrated mainly in European countries, U.S.A. and Japan. The largest suppliers as well as consumers are situated in these countries. There is a tremendous potential within these countries for the growth in market of floricultural products. The protected floriculture, with the advancement of the technologies has achieved a significance importance in the world, making it as an important business of various countries. Dutch roses are now being considered as superior amongst all. The Dutch market is famous for its auction system for the flowers. Cut roses are having a large share in the export quantity of the total cut flowers from various countries. Various factors play an important role in the demand for cut roses in international market which are price, availability, shape and colour of roses.

The National Horticulture Board said India produced 17 lakh MT of loose flowers in 2012-13. India's 'flower power' continues to bloom with the country emerging as the second largest grower of flowers around the world, surpassed only by China. About 2,33,000 hectares across the country was used for floriculture, producing 17,29,000 metric tonnes (MT) of loose flowers and 76,732 lakh cut flowers, according to the latest data of the National Horticulture Board for 2012-13. Andhra Pradesh leads in loose flowers production with 2,24,410 MT cultivated over 34,850 hectares, followed by Karnataka at 2,07,500 MT cultivated in 29,700 hectares and Tamil Nadu with 3,12,970 MT grown in 28,700 hectares

In India, many export oriented units are developing even in collaboration with the foreign players in this industry. Many corporate are also entering in the commercial protected floriculture field and thus production of the cut flowers in India is increasing. Pune and Bangalore are considered to be the major floricultural hubs of the country mainly in cut roses. The government policies and facilities of APEDA for promoting the exports have resulted in bringing more area under cut flower production. The globalization and liberalization has opened up the world market for India. Trade with the countries like Europe, Japan, and USA is increasing giving a valuable foreign exchange to the country. In spite of these advantages India's share in the world export is not even one percent of the total world export (COMTRADE, 2009).

The major steps are taken for development of this sector and brought it to its potential. The government of Maharashtra on 22nd June 2002 declared Pune, Nasik and Satara districts as an Agri Export Zone (AEZ) for floriculture. The establishment of the floricultural parks and deciding certain potential areas as an Agri Export Zones (AEZ) for floriculture are the bases for the further development of this sector and making it as a profit making business to the farmers. The development of this industry will help to attain a major position in the world trade of floriculture. The MIDC has developed a Floriculture park at Talegaon, Pune to develop that potential area as a cut flower center. There are about 8 to 10 modern cut flower production units and around 200 small to medium units in Pune area. These units are export oriented with 70 to 80 percent of the production being earmarked for export. Cut roses are having huge potential for its development and it is an upcoming major sector in floricultural industry.

In spite of the long and close association with floriculture, the records of commercial activity in the field are very few. The information on the area under floriculture and the production generated is highly inadequate. As commercial floriculture is an activity which has assumed importance only in recent times, there are not many large farms engaged in organised

floriculture. In most part of the country flower growing is carried out on small holdings, mainly as a part of the regular agriculture systems.

Post-harvest management plays an important role in the quality enhancement of cut roses. There are different norms for export to various countries. However all the producers are not acquainted with the latest technology and information. The producers are facing many constraints in marketing and export of their produce to ultimate consumers. Thus, there are many lacunae in the field which are resulting in lower exportable quantity. The reasons like higher establishment cost, unavailability of timely skilled labor, poor infrastructural facilities, improper post-harvest management and poor distribution network are hampering the exports of cut flowers. In India, floriculture has become a commercial field in agriculture sector. Cut flowers export is becoming a major business of many growers due to its vast potential. Area under protected cultivation and production has increased in recent years. Though, production of cut flowers is higher, India's share in global market is just 1 percent. The domestic market of India is increasing at a rate of around 15 to 20 percent per annum; India's commitment towards International market needs to be groomed. Production of roses, chrysanthemum, gerbera, and marigold is higher in India either as a cut flowers or loose flowers, having a huge demand. Roses are grown on a wide area in controlled conditions. Southern India is a major pocket of cut rose production in the country. Pune and Bangalore are emerging as major floricultural hubs for cut roses.

Indian outlook towards the floriculture has changed in recent years. Export oriented commercial cultivation of many flowers is a major business of many people in India. In 2009, the total production of cut flowers was 66644 thousand MTs but the export was only 9228.06 tones (0.01 percent). Thus, there are many lacunae in the field which are resulting in lower exportable quantity. The reasons like higher establishment cost, unavailability of timely skilled labor, poor infrastructural facilities, improper post harvest management and poor distribution network are hampering the exports of cut flowers. Thus, major steps are needed to be taken for development of this sector and bring it to its full potential. The government of Maharashtra on 22nd June 2002 declared Pune, Nasik and Satara districts as an Agri Export Zone (AEZ) for floriculture. The MIDC has developed a Floriculture park at Talegaon, Pune to develop that potential area as a cut flower center. There are about 8 to 10 modern cut flower production units and around 200 small to medium units in Pune area.

These units are export oriented with 70 to 80 percent of the production being earmarked for export. Cut roses are having huge potential for its development and it is an up coming major sector in floricultural industry. Post-harvest management plays an important role in the quality enhancement of cut roses. There are different norms for export to various countries. However all the producers are not acquainted with the latest technology and information. The producers are facing many constraints in marketing and export of their produce to ultimate consumers. In the present chapter an attempt has been made to study the aspects of Supply Chain Analysis of Cut Roses from Pune region with the following objectives.

Objectives of Study

1. To study the different quality parameters of cut roses for export.

2. To study the efficiency of existing marketing channels for export of cut roses in the region.
3. To study the market potential for roses in international market.

Research methodology

In the recent years, Pune city has become a major cut flower hub of India. The climatic conditions prevailing in the area and its nearness to the export centers of the country are the major reasons behind this. The Talegaon Floriculture Park, Pune was developed by Maharashtra Industrial Development Corporation. It is a major center for the cut rose export in Maharashtra and hence, it was selected purposively as the study area. The Talegaon Floriculture Park has 102 functional units dealing in export of cut roses. In all 25 functional and export oriented units, who export their produce either on their own or through some specific channels, was selected purposively.

The primary data were collected by personal interviews of the producers who export cut roses. The secondary data, such as area, production, import-export, standards, norms etc were obtained from various sources. The efficiency of the marketing channels was estimated. The level of adoption of post-harvest technologies for the cut roses by sample growers were analysed by using Delphi method.

Results and Discussion

Profile of Floriculture Park, Talegaon

Maharashtra is emerging as a second major state in India for floricultural sector. The declaration of areas like Pune, Nasik, Satara as an AEZ for floriculture, has resulted into development of the floricultural industry in Maharashtra. Realizing the potential for cut flower production in Pune region, Government decided to develop this sector. Government of Maharashtra and Maharashtra Industrial Development Corporation (MIDC) established a Floriculture Park at Talegaon in 2003-04. It is spread over an area of 250 hectares and located at 35 Km away from Pune city. The park is developed with an objective of constructing a platform for cut flower production with improved infrastructural facilities for the same. The basic infrastructural facilities were provided by MIDC such as roads, water and electricity for every plot. The plots were marked and sold to the enthusiastic persons for developing it as a hub for cut flowers. With period of time, the concept was popularized and many functional units were set up in the area. Presently, there are 102 functional polyhouse units engaged in producing export oriented production of cut roses and gerbera on a large scale. Prevailing climatic conditions, availability of plenty of water and its closeness to Mumbai are the ruling factors for giving the Floriculture park area as an export hub of Maharashtra. Majority of the units are run by the owners itself. Some of them have started a new trend of giving the units on lease basis to the specialized people in floricultural field.

Profile of sample cut roses producers

In the profile of sample producers, various indicators such as area under protected cultivation, variety wise area, criteria for varietal selection and production – disposal pattern of cut roses etc. is illustrated in brief.

Distribution of producers according to area under protected cultivation

The production level of the cut roses depends on the area under the polyhouses. Amongst the sample producers, 80

percent producers were having, on an average 0.9 to 1.6 hectares of area under the polyhouses for cut roses. About 12 percent producers were having area less than 0.9 hectare and only 8 percent were large producers with an average area of more than 1.6 ha. Majority of producers possess medium size of land holding. Exportable surplus goes on increasing with the increase in area under polyhouses. The rate of adoption of modern techniques of production is more, when area under cultivation is larger. The management also becomes more effective and income levels also increase as production is more compared to smaller areas under cultivation.

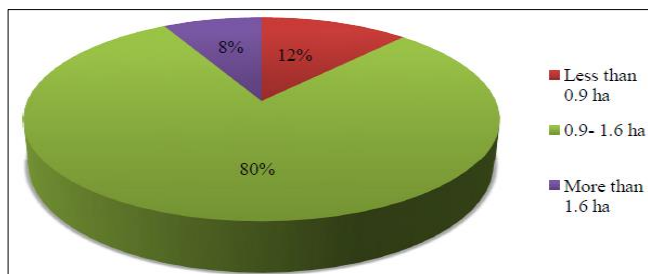


Chart 1: Distribution of producers according to area under polyhouses

b) Educational level of selected cut roses producers

Educational level of cut rose producer influences his readiness to adopt to the changing conditions of the market. The level of education influences the awareness about technology and willingness to change his attitude for progress. In the selected cut rose producers, it was observed that the way they deal with technology is largely influenced by the education the grower has. Of the sample producers surveyed, 48 percent were graduate, while 32 percent were educated up to secondary level and only 20 percent have secondary education.

c) Variety wise cultivated area

Cut roses are having a great demand in the world market in recent years. Many cut roses varieties in different colour shades are commercialized for the protected cultivation. Many of them are now being cultivated in India on a large commercial scale. Generally, it is observed that red colour roses are demanded mostly. Some countries also specify a particular colour as well as a particular variety for their customers. The variety wise area under cultivation by sample producers is given in Chart 2.

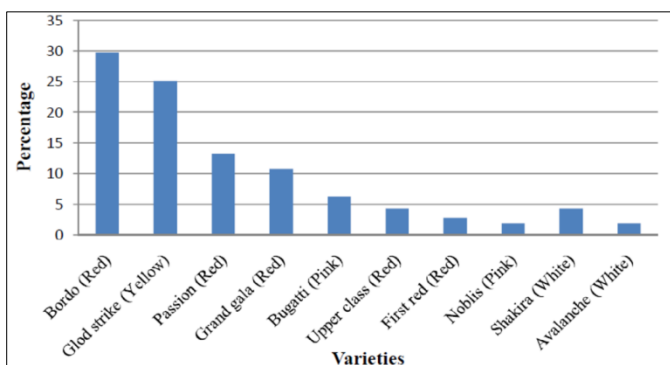


Chart 2: Variety wise share area in under cut rose on sample farms

From the above chart, it is observed that the red colour varieties have occupied larger share alone amongst all. Bordo variety has registered 31 percent share which is the Secondary maximum, followed by Gold strike (26%), Passion, Grand

gala, Bugatti, etc. Red colour varieties are mostly preferred by consumers throughout the world. Almost 90 percent share of total cut roses area in study area is occupied by red coloured varieties (63%) and yellow coloured varieties (25%). Rests of the colours are yet to be popularized. Now bicolor varieties are also being cultivated on large scale and they were fetching higher returns.

d) Production and disposal pattern of cut roses

Cut flower producers in a study area prefer a variety for the cultivation based on certain reasons. Many varieties of cut roses are now being commercially cultivated in India. The reasons were analyzed in order to know the major preference criteria amongst the cut rose producers in the study area. The exportable surplus mainly depends upon the production level. The higher is the production, more effective will be the marketing of produce. When production level is higher, the management can be done more efficiently as adoption of improved technologies is possible. While having larger production, producers were needed to concentrate on the qualitative factors also. The export standards are very specific and hence, they have to be maintained while taking a large scale production. Chart 3 represents daily production of cut flower sticks at the sample grower’s polyhouses.

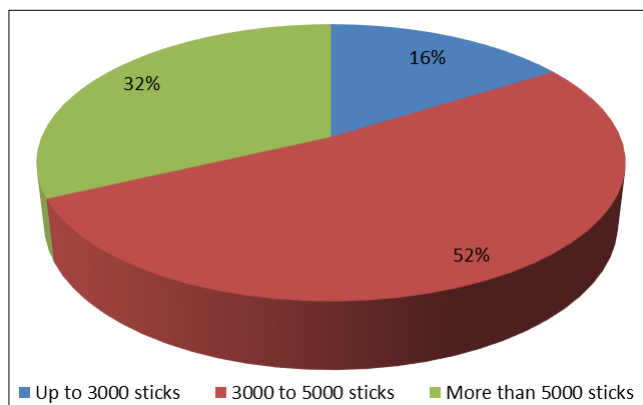


Chart 3: Daily cut roses production level on sample farms

It is observed that, majority of sample farmers are harvesting 3000 to 5000 cut flower sticks daily.

The grade wise production of cut rose sticks per day on the sample farms. The red colour varieties are having major production of both the grades. The superior quality cut roses (A Grade) were exported through different marketing channels and rest of the produce (B Grade) is sold in domestic markets. Around 80 to 85 percent of the produce is exported and remaining 10 to 15 percent is sold in local markets. Cut roses are highly sensitive commodity and its losses at the production level are higher. The post harvest losses are considered to be around 5 to 10 percent depending upon the management by the producers. The poor infrastructural facilities, improper handling and less skilled labours could be the reasons for quality deterioration. (Table 1)

Table 1: Grade wise production of cut roses on sample farms

Sr. No	Colour	Area (ha.)	Grada wise quantity produced (No. of sticks/day)	
			A	B
1	Red	24.30	128640	9475
2	Yellow	10.05	39550	1790
3	White	3.19	9865	5245
4	Pink	2.45	9235	4060

Quality parameters required for export of cut roses

The cut roses are having specific quality parameters for various countries. These parameters are strictly to be followed while exporting the cut roses to the specific countries. These parameters are based on the stem length, bud size and colours of cut roses. Proper management is necessary to maintain these standards in production and at the time of post harvest operations. The trends are changing as per the demand of the countries. Red colour roses are having a great demand during valentine day while all colour varieties are in demand during New Year and X-mas. The standards are mandatory and are strictly examined before clearing the consignment from the port in importing countries. Thus, quality control is an important parameter in cut roses. Thus, it is necessary for the cut rose producers and exporters to get familiar with these standards and specifications in order to get the higher returns. The parameters for the export in major countries like European Union (EU) and Japan were studied in detail. They are depicted in following tables.

A. Japan

Japan is a major market for Indian cut flowers. The hassle free export process with an average good price for cut roses and its nearness to India made Japan as an important export destination in recent years.

- Bud size -The bud should be of size 3 – 3.5 cm
- Bud stage- Opening bud stage
- Stem length- 50-60-70 cm
- Colour -Prefers dark colour varieties

B. European Union (EU) countries

European countries are having a greater demand for cut roses. They are much specific about the quality standards while importing the produce. The different specifications are as follows.

- Bud size - The bud should be of size 3.5 – 4 cm
- Bud stage - Opening bud stage
- Stem length - 60-70-80-90 cm
- Colour- Prefers light colour shades varieties

Other specifications

- Uniform thickness and sturdiness
- Free from growth defects including irregularly shaped flowers
- Batch must be fresh and in good form, composition and flower and leaf colour
- Free from physical defects
- Residue free foliage
- No traces of diseases and insect pests
- Maximum permitted bacteria count in the stem is 1 million bacteria/g stem
- Fumigation if necessary

Quality parameters

I. Bud size

Bud size in simple meaning is the diameter of the flower bud. The higher is the diameter of bud, higher is the quality of the flower. The buds are covered with net like cap which ensures the uniformity of size in the entire production batch. It varies from 2 to 4 cm depending upon varieties and management practices followed while production of roses.

II. Bud stage

The buds should be in a tight bud stage in which petals are firmly gripped. When outer one petal opens it is the right bud stage

for the harvesting in cut roses. When harvesting is done at this stage while the flower reaches to the customer it opens and quality is maintained.

III. Stem length

It is the length of the stem measuring from base of the flower bud to the end of the stem portion after harvesting from the main plant. Different countries prefer different stem length as per their specification. It is the major factor which decides the price of the cut roses.

IV. Bunching

The bunching is done as per the requirement of the customer who is importing the cut roses. Generally a bunch of 20 flowers is packed but sometimes a bunching of 15 flowers is prepared as per the terms specified. It must be wrapped in a corrugated fiber paper.

V. Foliage

The leaves should be green in colour with free from any traces of chemicals and pesticides. It should be disease free and if any such diseases are seen it should be fumigated. The healthy green colour leaves are necessary and lower two third portion of the stem should be deliffed before exporting.

VI. Disease and pest free cut roses

The cut roses to be exported must be disease and pest free. The cut roses though cultivated in greenhouses have some serious pest and disease problems.

Post Harvest Management in Cut Roses

The post harvest management has a significance importance in the quality enhancement of cut flowers. A proper management is the basic need in cut roses right from its harvesting till it enters in distribution chain. A variety of practices are followed for cut roses under post harvest management.

a) Post harvest practices for cut roses

i. Harvesting

The harvesting of cut roses should be done at a proper stage to maintain the quality of the flower. When bud is in tight stage with one petal open it is considered to be the perfect stage for harvesting.

ii. Pre cooling

Immediately after harvesting it is necessary to keep the flowers in cold temperature which helps in improving the vase life of flowers by preventing the quality deterioration. Temperature for pre cooling is 1-20 C for at least 8 hours.

iii. Deleafing

The removal of leaves and thorns from the stem of cut roses is done up to the lower 1/3 rd portion from the base of the stem. The portion varies according to the stem length. The standards are fixed for each stem length.

iv. Sorting

After deliffing, the flowers are sorted as per the colour, varieties and other factors. It is to facilitate the further management.

v. Grading

The cut roses are graded according to the predefined specifications. Grading in cut roses is done on the basis of

stem length and bud sizes. Grades differs country wise. Specifications are also different with the countries. Cut roses are graded in two grades viz Grade I and Grade II based on the certain parameters which are as follows. The Grade I is exported while Grade II is sold in domestic markets.

vi. Bunching

After grading is done, cut roses are bunched together as per the order of the customers or distributors and tying should be firm but not too tight. Generally, they are bunched in 20 flowers a bunch for export purpose.

vii. Packaging

Once bunching is done, it is wrapped with the corrugated paper for preventing damage while handling. They are packed in corrugated fiber boxes of dimension 100 X 40 X 20 cm. In one box 200 sticks of roses are packed which includes 10 bunches of 20 sticks each.

viii. Cold storage

The cut roses are sensitive to temperature fluctuations hence they are kept in cold storage which keeps it fresh for longer period. Before they are marketed it is kept in a cold storage. The temperature is up to 0.5-30 C and cut roses can be stored fresh up to two weeks.

Efficiency of Marketing Channels

Marketing channel is a route or path in which different intermediaries are involved through which the product is made available to the ultimate consumer. In India, structure of marketing for cut flowers is still not well organised. More the intermediaries less is the producers share in consumer's rupee. Efficient marketing is the precursor of getting higher returns from the produce. Producers adopt different marketing channels to sell their cut roses in international as well as domestic markets based on the circumstances in their areas.

Flowers are very delicate in nature and hence, their marketing is an important aspect in supply chain management. The proper distribution management should be done to deliver the cut flowers to the ultimate consumers without deterioration in quality. While exporting the cut flowers it is necessary to follow the certain specifications and norms prescribed by the different countries. Different channel players are involved in the marketing of cut roses right from producer's field to the consumers door step. The marketing efficiency of these channels decides the effectiveness of the whole channel.

Existing marketing channels in the study area

The objective of the study was to focus the export of cut roses hence, the attention was paid to the export of cut roses only. In Floriculture Park, Talegaon majority of cut rose producer exports their produce through different marketing channels. Producers adopt the channel based on the returns they obtain and the resources available with the channel players involved. There are two main marketing channels existing in the area which deal in export of cut roses. They are as follows.

- Channel-I: Cut Rose producer - Exporter
- Channel – II: Cut Rose producer - Importer

Channel – I is the most preferred channel in the study area as the cut roses producers mainly export their produce through the agencies dealing in the export of cut roses. The exporter collects the cut roses from the producer's field and they further export it in a bulk quantity. They sell the produce to

the wholesalers or florist in the particular countries in which they are exporting.

Channel - II is a direct export channel where the grower sells his produce to different countries. The channel is not widely used because of the complicated process for export and the higher costs are involved in it. Some of the producers come together and sell their produce directly to the importing countries with the help of society.

The sample cut roses producers mainly use these two channels for exporting their produce. The 'A grade' quality cut roses are traded through these channels on daily basis. The daily disposal pattern was studied through these channels in order to find out the most prominent channel in the study area. The disposal pattern through these channels is depicted in Table 3.

Table 2: Disposal of cut roses through different channels

Channel	Quantity disposed		No. Of producers	Percent
	Qty. in sticks/day	Percentage		
Channel -I	118440	82.73	19	76.00
Channel-II	24720	17.26	6	24.00
Total	143160	100.00	25	100.00

Table 3 indicates that almost 83 percent of the produce is disposed through channel – I which is used by 19 of the selected cut rose producers in the study area. Thus channel I is found to be the most prominent channel in the Floriculture Park, Talegaon. A pre harvest contract is made with the producers by the exporting agencies. The price for the cut roses is fixed well in advance as per the stem length and quality of the flowers. The agreement is for the period of one year, indicating that the producers should provide a fixed quantity of flowers at a decided price. The average quantity to be provided is fixed as per the area under the poly house. On an average from an area of one acre under polyhouse should provide 2000 stems per day. It is inclusive of all the varieties and colours. Exporters give minimum Rs 3/- per stem for the cut roses with stem length of 40 cm which rises to Rs 6/- per stem for stem length of 60 cm. The rate differs as per the quality of the flowers. The rate is fixed for the year with exception of the period from December to February. The demand for roses in this particular period is higher than the rest of the year because the New Year, Valentine day comes during these months. They give different rate during this period to the producers. Producers get around Rs 10 to 15 per stem in the period due to its higher demand in the international market. Generally it requires 45 days for flowering in roses after taking the cut to the stems. Thus by considering the major demand in the December to February period many of the producers plan their production schedule. The cut is given in mid December so that harvesting will start from February and they will earn more returns.

Producers get a fixed price for his roses in this contract method. Thus, price fluctuation in the international market doesn't have any impact on producer's income as he is bound to receive the fixed rate for the flowers. The exporters have own refrigerated vehicles through which they transport the cut roses to the airports for the export to various countries. Payment is done on a regular basis generally in the span of 2 weeks from the consignment is given to the exporting agencies. Though the method seems to be effective, producers get low returns as rate is already been fixed even if prices at the markets increases suddenly. But the plus point is that, they have assurance that their product is having a market as exporter is going to purchase the product on regular basis.

Thus, this method is adopted by most of the producers in the study area for effective export of cut roses.

II) Efficiency of marketing channels

Marketing efficiency is the degree of market performance. In broad sense it is the competence with which a market structure performs its designated function. Efficient marketing system is that system in which product moves from producer to consumers at the lowest cost. Higher is the ratio, effectiveness of the marketing channel is more. Higher the marketing cost lower is the efficiency. It is not meant that the most prominent channel has the highest marketing efficiency. The marketing efficiency depends on the following factors.

- Total marketing cost incurred
- Net market margin
- Number of involved market intermediaries.
- Price paid by consumer and producer's price

Efficiency of the existing marketing channels was studied in order to analyze the most effective channel for the cut roses export in the study area. Table 3 shows the efficiencies of the market channels.

Table 3: Efficiencies of existing marketing channels for cut roses export in study area (Per stick)

Sr. No	Particulars	Channel-I	Channel-II
1	Price received by grower	5.50	6.35
2	Marketing cost	2.35	2.85
3	Price paid by consumers	11.50	11.85
4	Net market margin	6.00	5.50
5	Marketing efficiency	0.37	0.41

The market efficiency of channel-I was found to be 0.37 while that of channel – II was 0.41. The efficiency of channel I was low because of

- Exporter makes a contract with producers at a fixed rate which is comparatively lower than the actual market rate.
- The market margin of channel players is higher as compared to producers share.
- Marketing cost is less as compared to channel – II marketing cost because the exporters have a good setup of various marketing services till the consignment reaches to its ultimate destination.

The marketing efficiency of channel – II was higher as it is a direct marketing channel in which cut roses moves from producers to the customers without much intermediaries.

- The price received by grower was higher as they export the cut roses on their own.
- Marketing cost was higher as producers were lacking the basic transportation facilities. They have to hire the vehicles for transportation, also other charges was higher as they have to tie up with the customers without any prior set up.
- The price paid by the customer was higher in the chain as they were having an option to sell their produce to the auction centers at higher rates also.

Though, the channel – II proved to be more efficient, the producers were commonly using channel I. The producers were not been able to export the cut roses through channel – II because of various reasons. They are illustrated as follows.

1. The production potential of the producers was comparatively low to export the cut roses on their own i.e. no sizable quantity.

2. Cut roses producers were lacking the facilities like refrigerated vans for the transportation of cut roses to export centers like air ports. It was not economical to send the produce every time by hired vehicle, which increases marketing cost.
3. The export procedural formalities are complicated and obtaining a license for export is difficult process. Also the royalty, duties and other charges are quite high and not feasible to the individual production unit.
4. The market tie up is a major constraint in exporting the cut roses. As they are not able to supply the daily required quantity to the importing authorities.
5. The price fluctuation was also a major factor behind preferring the channel – I. as in this channel exporter was paying a fixed price and he was bound to take the produce hence disposal was not also the problem.

By considering these factors, producers were opting channel: I. However, if channel –II is used for the export then producers will get more returns than the current revenue as the cost realized per stick in channel II is more than the first channel. The joint effort should be made to strengthen the channel – II for the benefit of producers.

Market potential for cut roses

Market potential for any product is an important criterion for deciding the business plans and marketing strategies. It is nothing but the estimation of maximum total sale revenue of all suppliers of the product in a market. The producers should identify these potential areas worldwide in order to grab the opportunity and expand their business. Cut roses are a major commodity in cut flowers export in recent year. The worldwide demand for the cut roses is increasing rapidly over the recent years. Many countries are now being emerged as a major cut rose exporters and importers giving cut roses cultivation a global outlook. India is also one of the emerging countries in the world leading in cut flower production. There is a need to identify the market potentials in the different countries over the world and focus should be given to expand the trade in the world. Simultaneously, it is necessary to strengthen the domestic market also so as to generate more revenues for the ultimate economy.

Global market potential

People are now considering the flowers as the integral part of their life for expressing various feelings. Celebrations and festivals without the flowers are now hard to believe. In recent years the demand for cut roses has shown a rapid increase all over the world. Roses have gained a top position in the world cut flowers trade. This has lead cut roses production a prominent business in world with full export status. Only the need is to grab the potential markets. The cut roses export turnover is estimated to be 396 million EURO ('Floriculture Industry Global Scenario' Floriculture Today, January 2011) and hence cut roses still rule the world flower markets.

Indian cut roses is now being exported on a commercial scale in recent years. The realization of cut roses market potential in the world has opened up new windows for Indian cut roses producers in the export filed. The global outlook has been seen in cut roses industry in Indian scenario. European countries and Asian countries are considered as the major markets for cut roses in the world. India is trading with these countries and have established market network. The new emerging countries like Malaysia, Australia, and New

Zealand are adding a vast potential in the cut roses export. The need is now to focus such unexplored markets and established a strong network in those countries for becoming a major market player in cut roses export.

The import statistics of major cut roses export destinations of India and India's contribution in the total import of the countries was studied to find out the potential of cut roses for Indian cut roses. India's cut roses trade with different countries is depicted in Table 4.

Table 4: India's cut roses trade with different countries over past four years (Figures in tones)

Sr. No.	Country	2007	2008	2009	2010
1	United Kingdom	21430.819 (100.874)	25005.879 (165.089)	24656.806 (237.067)	23935.189 (465.115)
	India's share (%)	0.47	0.66	0.96	1.94
2	Japan	3654.266 (832.829)	3581.187 (666.863)	4776.901 (582.896)	5614.468 (528.277)
	India's share (%)	22.79	18.62	12.20	9.41
3	Australia	436.596 (50.682)	532.575 (43.357)	471.439 (45.439)	634.834 (49.925)
	India's share (%)	11.61	8.14	9.64	7.86
4	New Zealand	64.334 (11.535)	94.788 (24.814)	96.245 (29.472)	81.902 (38.608)
	India's share (%)	17.93	26.18	30.62	47.14
5	Switzerland	6623.932 (52.939)	6714.882 (62.340)	6402.803 (56.560)	6535.543 (26.416)
	India's share (%)	0.80	0.93	0.88	0.40
6	Malaysia	--	--	102.688 (66.165)	135.349 (66.165)
	India's share (%)			64.43	48.88

(Source: COMTRADE, UN)

(Figures in brackets indicate India's contribution)

From the above table, a conclusion can be drawn that the India's share in the export of cut roses is increased in the UK by four and half times during last four years. Japan is the major destination for Indian cut roses. However the demand for Indian cut roses in Japan has substantially declined during the period under study. It is a matter of concern that the cut roses demand in Japan market is extensively increased. But on the controversy share of Indian cut roses is observed to be considerably declined. Australia is an emerging destination for cut roses in recent years. It is still unexplored to its full potential by Indian cut rose industry. The demand for cut roses in the country is increasing rapidly. The demand pattern, high production cost and youths unlikeliness towards agriculture in Australia are beneficial for Indian cut roses sector.

The growth in the share of India's contribution to Australia is somewhat stagnant during last four years. The potential have to be exploited in order to become the major player. New Zealand is emerging as the major market for Indian cut roses in recent years. The share of India in New Zealand's import has been increased by three times during last four years. The constant increase rate has been observed in the period under study. Malaysia is having a potential for cut roses and India is having an advantage for the export to Malaysia as it is comparatively near then rest major countries. Indian cut roses contributes a major share in the total demand of cut roses in the country. The need is to increase the export and capture large share in the future. The factors like location proximity and seasonal variation of production season, European countries are the major consumers and producers of floriculture products in the world. But their consumption is much higher that their production; the gap is filled with

imports from developing countries (mostly from tropical regions). Plus their production is declining due to decrease in acreage. In addition to this, European countries could not produce flowers during October-February, but have critical demand for important occasions besides to the regular requirements. Thus India is having a potential to supply the cut roses in the period as production of cut roses in October-February is possible. The rate would be higher and proper production management is necessary so that major produce can be obtained in this period and exported to Europe.

India now also should focus on the Japan, Singapore and Taiwan which are emerging as major cut roses consumption countries as India is having an advantage towards these countries such as

- Relatively near from India
- Shipping requirement in terms of post harvest storage in minimal
- Premium market prices

There is a need to identify the potential in these markets. India is having a well established network in various countries so it is the strength for Indian cut roses export industry to expand the business. India's cut flowers production is increasing and thus it can effectively supply major quantity of cut roses to different countries if proper management is done. The prices though are very unstable and fluctuating they are increasing and mainly depends upon the quality. Thus measures are to be taken to improve the quality of cut roses as per the standards fixed in order to expand the business. Instead of totally depending on UK and Japan as the export destination, the focus should be given to the emerging countries like Singapore, Australia and others so that the stability in the cut roses export can be achieved.

The share of India's export of cut roses is reducing which is a matter of concern and necessary steps are to be taken at this stage only in order to overcome the loopholes in the current export process. The floriculture sector is depending on the climatic conditions and sudden drastic changes in the climate leads to major change in production of cut flowers. This reduces the exportable surplus, prices of cut flowers in market and its demand. Control over the climatic conditions is not in our hand but necessary precautions can be taken up and damage can be reduced to certain extent. Considering the market potential for cut roses, new improved technology and high yielding varieties should be developed with a package of practices to enhance the quality of cut roses.

The Government of India is promoting the export of cut roses by formulating various policies and providing basic infrastructural facilities.

- Agri-Export Zones (AEZ) pertaining to floriculture in the States of Karnataka, Tamilnadu, Sikkim, Uttaranchal and Maharashtra have been sanctioned by the Government
- Cold Storage and Cargo handling facilities have been set up in Delhi, Chennai, Mumbai, Bangalore, Hyderabad and Thiruvanthapuram to handle perishable cargo for exports. The post harvest losses in cut roses are more due to unavailability of the basic infrastructural facilities.
- Subsidies are given for cold storage construction, Greenhouse construction upto 20- 25 percent
- Export subsidy is also now being given by APEDA for cut flower exports
- For strengthening the production of cut roses government have reduced the import duties on quality planting materials and machinery to 25 percent.

Conclusions

1. Passion, Bordo, Gold strike varieties of cut roses are having a great demand in exports and these varieties can be cultivated on large scale in the vicinity of Floriculture Park, Talegaon under protected cultivation.
2. The adoption level of post harvest practices by sample cut roses producers were good as almost 84 percent of the cut roses producers have adopted the most of the post harvest management practices, whereas 16 percent cut rose producers were having low level of adoption due to factors like lower educational level, unawareness and lack of infrastructural facilities.
3. There are two major marketing channels in study area for export of cut roses viz, Channel I – Producers Exporter Importer / Consumers and Channel II – Producers Importer Consumers. Channel I was the most prominent channel of cut roses export in study area but according to efficiency index the Channel II was more efficient as per unit rate is quite higher in this channel.
4. India should focus on the major markets like UK, Malaysia, New Zealand and Australia for exploring and capturing a major share in those markets as there is a vast potential for cut roses in future also. The export norms need to be assessed for finding the reasons for decline in share.

Suggestions

1. Cut roses producers should be made aware about the export specifications and the grading should be done as per the standards in scientific way with use of improved machineries to trap the more export markets with quality produce.
2. The producers should be trained for adopting the scientific post harvest management techniques such as proper harvesting, pre cooling, grading and cold storage management in order to maintain the high quality of the cut roses for export oriented approach. The manpower associated with production of cut roses should be trained for using latest technologies at Horticulture Training Centre, Talegaon to overcome the problems of skilled labours.
3. Producers of Floriculture Park, Talegaon should adopt the concept of cluster farming in order to export the cut roses collectively and making the provisions for the common infrastructural facilities such as grading machines, cold storage with pre cooling chambers and refrigerated vans for transits.
4. The study brought out that the channel II i.e. Producer – Importer is the efficient, hence the efforts be made for maximum dispose of the produce by group farming and collective farming. It is a need of time to strengthen producers association for export orientation scene
5. The efforts should be made to identify unexplored markets with higher potential for cut roses export in different countries and tie up them. The reasons for decrease in export share should be identified and the quality norms for the various countries should be reassessed by the cut rose exporters.
6. The difficulties should be overcome by taking the necessary steps such as providing market intelligence. The government should rectify the existing procedural formalities and re-appropriate as producer friendly. As the cut roses production is capital intensive business, the government should support the cut roses producers by providing requisite loan at affordable rate of interest.

Reference

1. Acharya SS, Agrwal NL. Agricultural Marketing in India'. Book published by Oxford and IBH publishing company, Private Limited, New Delhi-110001. ISBN-81-204-1636-8; c2004. p. 385-388.
2. Anonymous. Handbook of Horticulture', published by Indian Council of Agriculture Research, New Delhi; c2005.
3. Sharma P. 'Floriculture Industry Global Scenario' Floriculture Today. 2011;15(8):22-33.
4. Wijnands JO. 'Floriculture Worldwide', Article explored on Web site: <http://www.overview.cutflowers.asp?Bookid>; c2009.
5. www.apeda.com
6. www.comtrade.com
7. www.msamb.com
8. www.nhb.com