



RECENT FLORICULTURE IN INDIA

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ABSTRACT

This report finishes a research of the floriculture sector's recent advancements in India, notably in terms of key cut flower producing states, industry growth, and export potential. The primary focus is on commercially farmed cut and loose flowers. Documentation was carried out throughout the previous two decades. The purpose of this study is to look at the export performance, the composition of exports, the means of transportation for floriculture exports, and the share of floriculture exports. India produces roughly 19 lakh Tonnes of loose flowers and 8.90 lakh Tonnes of cut flowers per year on 3.40 lakh hectares of land, bringing in considerable revenue to the exchequer through domestic & global commerce. India is ranked 18th in the world, with a 0.6 % of the worldwide floriculture trade. Exports grew at a CAGR of 4 % during the previous decade. In 2010-11, India was the greatest exporter to the United States, with US \$ 12.72 million, US \$ 16.06 million in 2014-15, and US \$ 19.49 million in 2019-20. Exports through air are on the rise, rising from 27 % in 2010-11 to 40.21 percent in 2019-20, with a compound annual rate of 0.06 percent.

Keywords: Floriculture, Marketing strategy, Export, Florist

INTRODUCTION

In India, floriculture is founded on tradition. We Indians use flowers in a very different way than the rest of the world, however contemporary floriculture is practised all across the world. Roses, chrysanthemums, gladiolus, and tuberose are popular cut flowers in the flower trade. According to flower trend forecast, chrysanthemum, peonies, tillandsia, roses, hydrangea, and sensitive vines are among the top trending flowers for 2020.

Traditional loose flower cultivation requires urgent attention, but modern flowers receive financial aid (and subsidies) in the form of cold storage, pre-cooling devices, refrigerated vehicles, air freight subsidies, and green buildings.

The floriculture industry is increasing as a result of the recent increase in supply for loose and cut flowers. The floriculture sector in India has benefited from rapid urbanisation, improved flower transportation infrastructure, and other initiatives. The floriculture industry can benefit greatly from the adoption of floral decorations for various events such as birthdays, anniversaries, festivals, Valentine's Day, marriages, and so on.

AIMS AND OBJECTIVES

The objectives of the study were to provide an analysis of:

- (1) A broad, general description of the nature of the florist industry in India.
- (2) Recent development of varieties and post-harvest techniques in India.
- (3) Business management practices followed by retail florists.
- (4) Special problems of retail florists which might be more intensively studied in the future.

CUT FLOWER

Cut flowers are plucked or cut with a little of the stem from the bearing plants so that they can be moulded into flower arrangements, corsages, decorations, bouquets, floral baskets, and so on. Flowers survive a long time and account for a major portion of the world's floral goods.



LOOSE FLOWER

The loose flowers are picked just below the calyx and are in high demand since they are used in rangoli arrangements, hair Veni (or Hair Gajra, a floral crown popular in South Indian weddings), garlands, puja necessities, and garden displays, among other things.

MATERIALS AND METHODOLOGY

The main aim this research is the literature of cut flowers, cut flower market, recent technologies developed, care and management by florist and new varieties developed. The information obtained as a result of interviews of florist, questionnaire created and the photographs taken at the florist shop are the materials of the study. The method consists of 2 stages with outline, the stages are as follows.

Stage 1: Literature research and data collection:

Information about the varieties developed in India recently, largest production areas of India, advanced technologies developed for post-harvest of flowers, chemical preservative used, current global cut flower market analysis, and marketing in the future was analysed.

Stage 2: Survey application of florists

Survey was conducted of the local florists regarding floriculture business plan, profits of floriculture business, impact of covid 19 on cut flower market, marketing strategy, display to attract customers, care and management of the flowers, significance of flowers used by customer in various ways such as floral arrangement, floral ornaments, dry flowers, essential oils etc, major cut flowers, loose flowers and fillers used. And the current rate of cut and loose flowers received by retailers.

A questionnaire was created for the florist for better understanding and to seek information in a better way. The participants involved were business development managers along with external consultants, valuation experts, and leaders specializing in cut flower market.

RESULT AND DISCUSSION

Indian floriculture scenario

The pillars of Indian floriculture, which are predominantly in the hands of small and marginal farmers, are traditional flower cultivation in open fields and cut flowers under protected horticulture. Traditional (loose) flowers dominate the home market; they take up a lot of land and generate a lot of blooming, whereas cut flowers are grown in a limited area primarily for export. The domestic market for loose flowers is also substantially larger than the domestic market for cut flowers in terms of value, although exact numbers are unavailable. The annual value of the CP (Connaught Place) market in Delhi is expected to be Rs.110 crores (35 lakhs per day in 1995). Similarly, the Ghajipur market in Delhi was estimated to be worth Rs. 560 crores per year in 2012-13. Over 500 million cut flowers with stems and nearly 300,000 million tons of loose flowers are estimated to be produced. Estimates may differ from actual statistics in the case of production since some flowers, such as roses, tuberose, and chrysanthemums, are used both as loose flowers and as stemmed flowers.

Floriculture research is being conducted by the Indian Council of Agricultural Research and the Council of Scientific and Industrial Research, as well as the floriculture departments of State Agricultural Universities and the All India Coordinated Floriculture Improvement Project, which has a network of about 20 centres. The Agricultural and Processed Food Products Export Development Authority (APEDA), which is in charge of export promotion and floriculture development in India, provides subsidies for cold storage, pre-cooling units, refrigerated vans, and green houses, as well as air freight subsidies to exports.

Marketing of flower

The country's flower-growing area is estimated to be over 65,000 hectares. The principal flower-growing states are Tamil Nadu, Karnataka, and Haryana in the north Andhra Pradesh in the south, Maharashtra in the west, and Rajasthan, Delhi, and West Bengal in the east. India's flower-producing states are listed below.

Table no. 1: Marketing of flower state and area

STATE	AREA (HA.)
Karnataka	19,161
Tamil Nadu	14,194
West Bengal	12,285

Andhra Pradesh	5,933
Maharashtra	3,356
Rajasthan	1,985
Delhi	1,878
Haryana	1,540
Madhya Pradesh	1,270
Uttar Pradesh	1,000
Others	2,166
Total	64,768

Traditional loose flowers like marigold, aster, jasmine, crossandra, tuberose, and chrysanthemum, take up more than two-thirds of this massive space. The area under cut flower harvests (with stems) used for bouquets, arrangements, and some other reasons has expanded in recent years, owing to growing affluence and people's interest in using flowers as gifts. This category includes roses, carnations, gladioli, tuberose, orchids, and, more recently, chrysanthemum, liliiums, gypsophila, gerbera, and other flowers.

Marketing strategies used by florist

Consumer's interest can be varied according to new flower trend such as color, design style, flower type, or any other combination. Succulents appear to be on everyone's mind, and exotic blooms are more popular. Color is the most powerful and convincing visual signal, aside from apparent freshness. Knowing which colour palettes are becoming increasingly popular and tailoring product offers to match their tastes is a certain approach to attract more customers. Succulents and one-of-a-kind flowers illustrate consumers' desire for a life filled of unique experiences. A gladiola's or tulip's ruffled border might be precisely the visual clue a buyer needs to be inspired.

International export potential

The emergence of new global flower centers, strong local demand, a lack of adequate infrastructure, and growing production costs have hindered India's floriculture export growth, which increased by just 16 percent in 2012-13 compared to 23 percent the year before. The Agricultural and Processed Food Products Export Development Authority (APEDA), which is in charge of export promotion and floriculture development in India, provides subsidies for cold storage, pre-cooling units, refrigerated vans, and green houses, as well as air freight subsidies to exports. Commercial floriculture has been discovered to have a larger potential per unit area than other field crops, making it a profitable industry.

Indian floriculture analysis

Table no. 2: Indian floriculture analysis

INDIAN FLORICULTURE ANALYSIS	
STRENGTH	OPPORTUNITY
India has agro-climatic zone; hence variety of flowers can be grown in various seasons. Also, labour is available at low cost.	Demand for cut and loose flowers is increasing day by day. Commercial floriculture in India is viewed as high growth industry.
WEAKNESS	THREAT
Lack of scientific information, inadequacy of trained personnel, lack of infra structural facilities such as cold rooms to 42 cool the cut flowers, packaging materials, air-conditioned trucks for transport, and non-availability of greenhouse materials.	Vase life of flowers has to be maintained; hence cold storage is necessary during transportation. Flowers in floral arrangement only last for 7-14 days in average, hence consumer often prefers to buy artificial flowers for decoration.

LOOSE FLOWER PLANT LIST

Table no. 3: Loose flower plant list



SR. NO.	SCIENTIFIC NAME	COMMON NAME	COLOR	VASE LIFE	FLOWERING SEASON
1.	<i>Tagetes erecta</i>	Marigold	Orange, yellow, white	7 days	Mid- October, Feb-March
2.	<i>Jasminum sambac</i>	Mogra	White	4-7 days	April-June, July-Sept
3.	<i>Rosa sinensis</i>	Rose	Pink, red, apricot, peach, blue, bicolor	10 days	Feb-March
4.	<i>Crinum asiaticum</i>	Crinum	White, pink	1 day	April-June Dec-Jan
5.	<i>Tabernaemontana divaricata</i>	Tagar, Chandni	White	7 days	April-June Feb-March
6.	<i>Chrysanthemum</i>	Chrysanthemum	White, pink, purple, green, red	7-14 days	Oct-Nov
7.	<i>Polianthes tuberosa</i>	Tuberose	Pink, yellow, white	7-10 days	July onwards
8.	<i>Calotropis procera</i>	Aakdo	White to pink	14-15 days	Year round
9.	<i>Magnolia champaca</i>	Son-champo	Yellow, orange	5-7 days	Oct-Jan
10.	<i>Hibiscus rosa-sinensis</i>	Hibiscus	Orange, white, pink, maroon, bicolor	7 days	July-Aug
11.	<i>Nyctanthes arbor-tritis</i>	Aparijat	White	3-4 days	Aug-Dec
12.	<i>Saussurea obvallata</i>	Kamal	Pink, white	13 days	June-Aug Dec-Feb
13.	<i>Cascabela thevetia</i>	Karen	Yellow	3-4 days	April-June
14.	<i>Gardenia jasminoides</i>	Gandhraj	White	1 day	March-April
15.	<i>Hymenocallis littoralis</i>	Spider-lily	White	1 day	Feb-April
16.	<i>Jasminum officinale</i>	Jasmin	White	5-7 days	March-June
17.	<i>Gaillardia pulchella</i>	Gillardia	Red, orange, yellow	6-10 days	April-May
18.	<i>Barleria cristata</i>	Barleria	Violet, pink, white	7-8 days	Oct-Dec
19.	<i>Cascabela thevetia</i>	Kaner	Yellow	5-7 days	March-Nov
20.	<i>Eranthemum pulchellum</i>	Eranthemum	Blue sage, purple, pink	3-4 days	March-June

CUT FLOWERS PLANT LIST

Table no. 4: Cut flower plant list

SR. NO.	SCIENTIFIC NAME	COMMON NAME	COLOR	VASE LIFE	FLOWERING SEASON
1.	<i>Chrysanthemum moriforum</i>	China juhua	Green, pink, yellow, white, red, bicolor	7-14 days	Oct-Nov

2.	<i>Dianthus caryophyllus</i>	Carnation/ clove pink	White, red, pink, blue, green, peach, bicolor	7-14 days	Feb-April
3.	<i>Heliconia wagneriana</i>	Rainbow plant/ lobster claw	Green, yellow, orange	14 days	Year round
4.	<i>Lilium longiflorum</i>	Easter lily	White, red, pink	7-14 days	Year round
5.	<i>Zantedeschia aethiopica</i>	Calla lily	White, red, pink	14 days	March-June Oct-Nov
6.	<i>Rosa sinensis</i>	Rose	Yellow, orange, red, pink, white, bicolor	7 days	Feb-March
7.	<i>Polianthes tuberosa</i>	Tuberose	Pink, white, yellow	7-10 days	July onwards Aug-Sept
8.	<i>Anthurium andraeanum</i>	Anthurium	Pink, red, white, violet, orange	14-21 days	All year round
9.	<i>Strelitzia reginae</i>	Bird of paradise	Yellow, blue, scarlet, green	14 days	May-Sept
10.	<i>Delphinium elatum</i>	Delphinium	Blue, pink, purple, white	6-8 days	Year round
11.	<i>Freesia refracta</i>	Freesia	Red, pink, white, yellow, violet	14-21 days	Mid-Oct
12.	<i>Calluna vulgaris</i>	Heather	Violet	7-14 days	Sept-April
13.	<i>Hydrangea macrophylla</i>	Hydrangea	White, pink, blue, red	2-3 days	May-Nov
14.	<i>Phalaenopsis amabilis (L.)</i>	Orchid	Bright rich purple	7-14 days	Mid-Feb
15.	<i>Tulipa gesneriana</i>	Tulip	Yellow, maroon, bicolor	5-12 days	Nov-may
16.	<i>Helianthus annuus L.</i>	Sunflower	Golden yellow, brown	7-14 days	April-Nov

LIST OF FILLERS

Table no. 5: list of fillers

SR. NO.	SCIENTIFIC NAME	COMMON NAME	VASE LIFE
1.	<i>Gypsophila elegans</i>	Showy baby's breath	7 days
2.	<i>Limonium sinuatum</i>	Statice	7-14 days
3.	<i>Daucus carota</i>	Queen's annes lace	3-5 days
4.	<i>Monstera deliciosa</i>	Monstera	14-21 days
5.	<i>Polystichum setigerum</i>	Fern	8 days
6.	<i>Cocculus indicus</i>	Cocculus	8 days
7.	<i>Chamaedaphne calyculata</i>	Leather leaf	7-21 days
8.	<i>Dracaena marginata</i>	Dracaena	7-14 days
9.	<i>Asparagus densiflorus</i>	Ping pong/ asparagus ball	7- 14 days

SELECTED FLOWERS AND THEIR DEHYDRATION METHODS

Table no. 6: Dehydration method

FLOWER CROP	METHOD OF DRYING
Acasia	The flower cluster is heated over a kettle after drying to preserve the natural beauty of the blossoms.
African violet	must be kept in a face-up posture for two weeks while being submerged in sand

Chrysanthemum	For a 5-day drying period, silica gel is applied. Yellow-flowered varieties keep their colour, whereas red and mauve-flowered varieties become drab and dark.
Calla lily	must be kept in a face-up posture for two weeks
Dahlia	Smaller flowering varieties are better for drying. After drying, red flowers get deeper, while white, yellow, and orange blossoms keep their colour.
Gerbera	Must be kept in a face-up posture for two weeks while being submerged in sand. When the petals are dried, they should be strengthened. After drying, yellow, orange, and pink flowers keep their color.
Gladiolus	Flowers are clipped and processed individually. Must be kept in a face-up posture for two weeks while being submerged in sand.
Hibiscus	Must be kept in a face-up posture for three weeks while being submerged in sand. Only medium-sized blooms should be chosen.
Ixora	For these flowers, press drying is preferable.
Marigold	Must be kept in a face-up posture for two weeks while being submerged in sand. It's possible that the petals will need to be glued from below at the root.
Nymphaea	Must be kept in a face-up posture for two weeks while being submerged in sand. All petals should be totally dry on the inside and outside.
Rose	It requires 4 days of silica gel drying. Must be kept in a face-up posture for two weeks while being submerged in sand.
Verbena	Must be kept in a face-up posture for three weeks while being submerged in sand.

FLOWERS AND THEIR PIGMENTS

Table no. 7: flowers and their pigments

FLOWER CROP	BOTANICAL NAME	PIGMENTS PRESENT
Dahlia	<i>Dahlia variabilis</i>	Cyanidin, chalcone glycoside, pelargonidin, malonylated
Lily	<i>Lilium longiflorum</i>	Cyanine 3-0-beta-rutinoside
Petunia	<i>Petunia exserta</i>	Pelargonidin-3-glucoside Cyanidin-3-glucoside Cyanidin-3-rutinoside
Marigold	<i>Tagetes patula</i>	Lutein, Lutein depalmitate, Lutein dymyristate
Ipomoea	<i>Ipomoea purpurea (brown red)</i>	Acylylated cyanidin 9-sophorosides
Carnation	<i>Dianthus caryophyllus</i>	Malylated cyanidin 3,5-diglucoside
Chrysanthemum	<i>Chrysanthemum grandifloram</i>	Cyanidin 3-dimalonyl glucoside
Rhododendron	<i>Rhododendron sp.</i>	Delphinidin 3-alpha arabinopyranoside
Crassula	<i>Crassula (red)</i>	3-glucosides of cyanidin and peonidin
Verbena	<i>Verbena (red-purple)</i>	Acylylated anthocyanins (pelargonidin 3-acetyl-glucoside)

Dendrobium	<i>Dendrobium sp. (red-purple)</i>	Acylated cyanidin glycoside
Rose	<i>Rosa hybrida</i>	Glycosides of cyaniding, quercetin, pelargonidin, kaemferol
Tulip	<i>Tulipa sp.</i>	Carotene, anthocyanidin, delphinidin, pelargonidin

LIST OF IMPORTANT PLANTS YIELDING ESSENTIAL OIL

Table no. 8: plants yielding essential oil list

FLOWER CROP	BOTANICAL NAME	CONSTITUENTS
Rose	<i>Rosa damascena</i> <i>Rosa centifolia</i>	Phenyl ethyl alcohol, geraniol, damascenone
Champaka	<i>Michelia champaca</i>	Linalool, methyl ester, eugenol
Jasmine	<i>Jasminum sambac</i> <i>J. grandiflorum</i> <i>J. auriculatum</i>	Indole, cis-jasmone, benzyl acetate and methyl jasmonate
Lavender	<i>Lavandula officinalis</i>	Linalool, linalyl acetate, ethylphenyl acetate
Tuberose	<i>Polyanthus tuberosa</i>	Geraniol, farnesol, methyl benzoate, eugenol
Chrysanthemum	<i>Chrysanthemum morifolium</i>	Camphor, borneol, eucalyptol, isoborneol
Geranium	<i>Pelargonium graveolens</i>	Ethyl alcohol, linalool, dimethyl sulphate

PRICE LIST OF COMMON CUT AND LOOSE FLOWERS

According to the farm produce, storage transportation to the retailers', following price has been fixed for year 2020-21 as per the attached details

Table no. 9: common list of cut and loose flowers

SR. NO	LOOSE FLOWER	PRICE
1.	Tuberose	Rs 80/- kg
2.	Crossandra	Rs 400/- kg
3.	Annual chrysanthemum	Rs 40/- kg
4.	Chrysanthemum	Rs 60/- kg Rs 5/- per bundle
5.	Marigold	Rs 30/- kg
6.	Aster	Rs 30/- kg
7.	Assorted loose flower	Rs 50/- kg
SR. NO	CUT FLOWER	PRICE
1.	Gladiolus	Rs 5/- per spike
2.	Rose (cut)	Rs 10/- per flower
3.	Rose (open)	Rs 2/- per flower
4.	Gypsophila	Rs 5/- per flower
5.	Gerbera	Rs 5/- per spike
6.	heliconia	150/Bunch
7.	Tuberose	50/piece

CONCLUSION

Commercial floriculture in India presents excellent business opportunities due to its agro-climatic zones. Through survey and documentation of paper, a better understanding of marketing strategies used by local florist is shown. India's statistics in floriculture during last decades, and the new varieties developed and advancement in techniques is discussed. In 2010-11, India was the greatest exporter to the United States, with US up to USD12.72 million, US up to USD16.06 million in 2014-15, and US up to USD 19.49 million in 2019-20. Exports by air are on the rise, rising from 27.00 percent in 2010-11 to 40.21 percent in 2019-20, with a 0.06 percent compound annual growth rate.

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WEB-LINK

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