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An economic analysis of floriculture in India

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ABSTRACT

People all over the world realize that flowers enhance the quality of life and influence human feelings more than words or other gifts. In recent decades there has been increasing in demand of floriculture and its products. It is sourcing industry in Asian countries including India. In recent decades there has been increasing in demand of floriculture and its products with increasing income. It is souring industry in Asian countries including India. Floriculture is an emerging area with great potential both in the domestic as well as export market. In India, commercial floriculture is ongoing development but have a long tradition of various types of flowers. Flowers have been representing in ancient painting, mural and coins. However, the social and economic aspect of flower growing recognized later. The floriculture plays an important role in agriculture. The floriculture is blossoming in India, but there are numerous challenges for its sustainable growth. The major problems faced in production of floriculture as indicated by producers include huge investment, scarcity of labour, non- availability of quality indigenous planting material and pest. With the increase in production of floriculture there should be export some flowers from India to foreign countries. The study aims to know about the Area of Cultivation, Production and Export of Floriculture in India from 1999-2000 to 2013-2014. In order to fulfill the objectives, this study consists of secondary data related to Area of Cultivation, Production and Export of Floriculture published in the hand books and statistical reports of National Horticulture Board Hand Book (1999-2014) and APEDA's Annual Report (1999-2014). State wise floriculture production has been indicating that, developed states of India i.e. West Bengal, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra taken lead in this regard and developing states like Gujarat, Haryana, Rajasthan, Uttar Pradesh, etc are improving their position in production of both types of flowers. Export of floriculture has been increasing constantly in the following years.

Key Words : Aggression, Socio-economic status, Academic performance

INTRODUCTION

India has a long tradition of floriculture. The seeds of floriculture were first planted in Babylonian Times, with the Hanging Gardens of Babylon. References to flowers and gardens are found in ancient Sanskrit classics like the Rig Veda (3000-2000 BC), Ramayana (1200-

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1300 BC), Mahabharata (prior to 4th century BC), Shudraka (100 BC), Ashvagodha (100 AD), Kalidasa (400 AD) and Sarangdhara (1200 AD). Flowers have been representing in ancient painting, mural and coins. 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. People all over the world realize that flowers enhance the quality of life and influence human feelings more than words or other gifts. In recent decades there has been increasing in demand of floriculture and its products. It is sourcing industry in Asian countries including India. In recent decades there has been increasing in demand of floriculture and its products with increasing income. It is souring industry in Asian countries including India. Floriculture is an emerging area with great potential both in the domestic as well as export market. In India, commercial floriculture is ongoing development but have a long tradition of various types of flowers. Flowers have been representing in ancient painting, mural and coins. However, the social and economic aspect of flower growing recognized later. It is only in the last two three decades. Since 1991, New Economic Policy has adopted in India. The main objective of this policy is to solve foreign currency crisis and remove the stagnancy through liberal economy. Thus, the major change has done in every sector of Indian economy. For the promotion of agriculture export, the Union Government gave incentives through the certain policies. NHB, APEDA and NABARD plays supporting role and recently NHM introduced as centrally sponsored scheme.

After 2001, there has been tremendous growth in floriculture production. In terms of area, production and export it can be seen extreme growth. All states in India have a tradition of growing flowers, commercial growing of flowers presently confined to Karnataka, Tamil Nadu, Andhra Pradesh, West Bengal, Maharashtra, Rajasthan, Delhi and Haryana. In India, marigold, aster, roses, tuberose, gladiolus, are grown in open field while gerbera, carnation, roses, anthorium, orchids, and the like, are grown under green house conditions. The export of floricultural products has been increasing tremendously in the past reform period.

Floriculture in India :

In India, the flowers have immense importance while offering as religious worship to various deities, as also for the purpose of decorating the places, particularly when there are various festivals. People also like it as beautifying themselves since many centuries. In fact, the flowers have great importance and significance in the Indian culture. But the export of Indian flowers in the world market is very small, because the International demand is for the cut flowers whereas in India, more usage is for loose flowers and traditional flowers. Only now has the Hi-tech flower industry been given its due importance.

The Government of India's Ministry of Commerce and Industry has given a special importance to the commercial floriculture industry, and special emphasis has been given to the exports of flowers to other countries by the EXIM (Export Import Bank of India). The flower industry is still not yet developed and is in its nascent stage. It has a very negligible share in the world trade of flowers. But as a result of a lot of interest being developed in domestic entrepreneurs and farmers, a lot of new units of floriculture are coming all over the country, to serve the domestic as well as the international market. The industry promises a lot of potential for the Indian farmers and the entrepreneurs alike. There is tremendous

export potential for the export of the floriculture products from the country, and is a viable alternative for the debt ridden traditional farmers, with the help of financial institutions.

There is a rise of area under floriculture in most of the years with an exception in 1996-1997, 2002-2003 and 2012-2013 when there was a reduction in the area. The total area under floriculture has grown with a Compounded Annual Growth Rate 7.7 per cent 1993-1994 to 2013-2014. It clearly reveals that the increasing trend of area under floriculture in India. The traditional flowers like jasmine, roses, tuberose, marigold and so on comprise about two thirds of the cultivated area. The modern flowers such as gerbera, carnation, Dutch rose, orchids, anthurium, lillium and other ornamental plants are being increasingly grown both for domestic consumption as well as exports. The people are increasingly using the new age greenhouses for cultivating the cut flowers, so that they can grow them all throughout the year, and have good quality. Since the floriculture has picked up lately, it is yet to increase in substantial area. Most of the new commercial floriculture units have come up only in the last decade. Several export oriented units by various corporate enterprises have started commercial floriculture cultivation. This area is likely to increase to about 600 hectare in the next few years.

Varieties of floriculture products :

Floriculture products consist of a wide variety of different types of plants and plant materials.

Individual Sub-Products:

Bulbs, Tubers, Tuberous Roots	Plant For Tissue Culture
Bulbs Horticultural	Flowering Plants
Chicory Plants	Other Live Plants
Other Bulbs/ Tubers	Live Mushrooms Spawn
Unrooted Cuttings	Cut Flowers for Bouquet's/ Fresh
Edible Fruit Trees Grafted Or Not	Other Cut Flowers for Bouquet's fresh
Cactus	Mosses and Lichens fresh
Rhododendrons (Grafted or Not)	Other Foliage/ Buds for Bouquets Fresh
Roses Grafted or Not	Foliages /Branch /Buds Not Fresh

They are broadly classified into four categories namely,

(i) Bulbs, tubers, corms and the like., chicory plant (non food).

(ii) Other live plants, roots, cuttings, mushroom spawn.

(iii)Cut flowers, dried flowers for bouquets and the like.

(iv) Foliage and the like, (expect flowers for ornamental purposes).

The important floricultural crops in the international cut flower trade are rose, carnation, chrysanthemum, gargera, gladiolus, gypsophila, liatris, nerine, orchids, archilea, authurium, tulip lilies and the like. The open field crops are chrysanthemum, roses, gaillardia, lily, marigold, aster, tuberose, jasmine, crossandraand the like., India is the world's largest producer of flowers after China, India got A1 quality certificate. Holland, the global leader in floriculture products, is slowly losing its monopoly as its next generation is refraining from entering into the business. This is providing the way for new entrants like Indonesia, Colombia, Israel and Sri Lanka. Indian corporates like Reliance, ITC, Tata Tea, Bharathi Group and Thapar

Group are showing interest in this area.

Loose flowers :

More than two-thirds of this area is devoted for production of traditional flowers, which are marketed loose flowers eg., marigold, jasmine, chrysanthemum, aster and the like. Among the traditional crops grown for loose flowers the largest area is under marigold, grown all over the country. In most parts of the country local varieties are grown for generations. African marigolds occupy more area as compare to the small flowered French types. Jasmine flowers in view of its scent are also very popular as loose flowers and for use in garlands and Veni (ornament for decoration of hair by women). The major areas under this crop area in Tamil Nadu, Karnataka in South and West Bengal in East. The chrysanthemum particularly the white varieties are much in demand as loose flowers during the autumn period. Among other traditional flowers grown in large areas are crossandra in Southern states of Tamil Nadu, Karnataka and Andhra Pradesh and Aster in Maharashtra. The loose flowers are usually traded by weight. The average price of different flowers in major markets varies considerably depending on the period of availability. The loose flowers are used for offerings at places of worship, for the extraction of essential oil and also used in garlands. In India loose flower with an area and the production is highly in the state Andhra Pradesh.

Cut flowers :

The area under cut flower crops (with stems) used for bouquets, arrangements and the like, has grown in recent years, with growing affluence for people interest in using flowers as gifts. Cut flowers and flower buds with a suitable stem of varying length, which makes them suitable for bouquets or for ornamental purposes. Cut flowers generally mean all cut plant components the economic value of which lies in decorative effects of their blossoms. The major flowers in this category are roses, gladiolus, tuberose, orchids and more recently liliums, gerbera, chrysanthemum, gypsophila and the like, Cut flowers are usually sold in bunches or as bouquets with cut foliage. The production of cut flowers is specially known as cut flower industry. Farming flowers and foliage employs special aspects of floriculture, such as spacing, training and pruning plants for optimal flower harvest and post harvest treatment such as chemical treatments, storage, preservation and packaging. Rose is the principal cut flower grown all over the country, even though in terms of total area.

The larger percentage of the area in many states is used for growing scented rose usually local varieties. Gladiolus is the most important cut flower crop in the country. With the improved agronomic techniques and better management, the major plains of Delhi, Haryana, Punjab, Uttar Pradesh and the like., have been emerged as the major areas for production of gladiolus. Tuberose a very popular cut flower crop in India is grown mainly in eastern region. The other main cut flower item is Orchid. The value of cut flower export from India has increased twenty five fold during the last five years. With more export oriented units coming into operation, exports are likely to grow further in the coming years. The major cultivation and production in India is highest in the place of West Bengal.

Export preservative methods :

Flowers are selected, sorted and packed selection ensures only flowers of commercial value and appears healthy and fresh. They should have stiff stems with buttons of uniform size. Once selected, the bottom leaves are removed then proceed to make bouquets made of five or ten stems (depending on the market requirements) with buttons of the same caliber using elastic bands but care must be taken avoid causing damage to the leaves. The boxes also must be cooled before packaging the flowers. Inside the chamber temperature fluctuations should be avoided, as these lead to development of condensation on petals and leaves and is in this free water where pathogenic organisms can develop.

Need for the study :

The floriculture plays an important role in agriculture. The floriculture is blossoming in India, but there are numerous challenges for its sustainable growth. The major problems faced in production of floriculture as indicated by producers include huge investment, scarcity of labour, non- availability of quality indigenous planting material and pest. With the increase in production of floriculture there should be export some flowers from India to foreign countries. The production of exports at present had suffered due to a few constraints. In this context, a study of floriculture export is felt necessary to identify the avenues for explaining the Indian Floriculture Exports. Hence the present study.

Objectives of the study :

1. To know the State-wise cultivation of floriculture and its varieties in India during 1999-2000 to 2013-2014.
2. To analyse the State-wise production of floriculture, loose and cut flowers in India.
3. To study the major markets for Indian Floriculture.

METHODOLOGY

The study aims to know about the Area of Cultivation, Production and Export of Floriculture in India from 1999-2000 to 2013-2014. The nature of the study is both descriptive and analytical in nature. This study consists of secondary data related to Area of Cultivation, Production and Export of Floriculture published in the hand books and statistical reports of National Horticulture Board Hand Book (1999-2014) and APEDA's Annual Report (1999-2014). The study covers the period of 15 years from 1999-2000 to 2013-2014. The period has been selected on the basis of availability of data. To make statistical tools of analysis like the collected data will be analyzed with the help of simple statistical tools like Percentages, Mean, Standard Deviation, Co-efficient of Variance, Annual Growth Rate (AGR) and Compound Growth Rate (CGR) are used in the study.

RESULTS AND DISCUSSION

Area of cultivation of floriculture in India :

The total area of cultivation of floriculture in India has increased from 88.60 thousand hectares in 1999-2000 to a maximum of 253.70 thousand hectares in 2011-2012 and the

Table 1 : Area of cultivation of floriculture in India: 1999-2000 to 2013-2014 ('000 in hectare)

Year	Area	Annual growth rate
1999-2000	88.60	-
2000-2001	98.00	10.61
2001-2002	106.00	8.16
2002-2003	70.00	-33.96
2003-2004	101.18	44.54
2004-2005	117.86	16.49
2005-2006	128.71	9.21
2006-2007	144.00	11.88
2007-2008	160.73	11.62
2008-2009	166.50	3.59
2009-2010	182.90	9.85
2010-2011	190.80	4.32
2011-2012	253.70	32.97
2012-2013	232.70	-8.28
2013-2014	233.00	0.13
CGR	5.97	-
$\overline{X}$	151.65	-
SD	57.50	-
CV	37.92	-

Source: National Horticulture Board (2000-2014).

subsequent years thee area of cultivation has been declining. The Annual Growth Rate of Area of Cultivation of floriculture in India has been fluctuating over the years. The growth rate registered maximum of 44.54 per cent in 2003-2004 and the minimum has registered a negative growth of -33.96 per cent in 2002-2003. The Compound Growth Rate of Area of Cultivation in India has recorded nearly six per cent growth during the study period. The mean magnitude of Area of Cultivation of Floriculture has registered 151.65 thousand hectares during the 15 years of cultivation of floriculture. The co-efficient of variation registered nearly 38 per cent of variation of Area of Cultivation of floriculture in India during the study period. It shows that the year-wise variation of floriculture has been fluctuating and it has shown that there is no much improvement in floriculture cultivation in terms of area during the study.

Production of floriculture in India :

The total production of floriculture has increased from 416408 values in rupees lakhs in 1999-2000 to a maximum of 2975049 values in rupees lakhs in 2013-2014. It shows that the value of floriculture production in terms of values in rupees lakhs has increased more than seven times within 15 year period. The value-wise production of floriculture has been fluctuating during the study period. The Annual Growth Rate of Floriculture production in India has registering a maximum of 31 per cent growth in the last year of the study period. The growth rate has registered a fluctuating trend during the period of reference. The Compound Growth Rate of Floriculture production in India has registering nearly 13 per cent

Table 2 : Production of floriculture in India: 1999-2000 to 2013-2014 (Values in Rs. lakhs)

Year	Production of floriculture	Annual growth rate
1999-2000	416408	-
2000-2001	462500	11.07
2001-2002	585815	26.66
2002-2003	549032	-6.28
2003-2004	487460	-11.21
2004-2005	528762	8.47
2005-2006	616575	16.61
2006-2007	730189	18.43
2007-2008	771071	5.60
2008-2009	884578	14.72
2009-2010	1119001	26.50
2010-2011	1397214	24.86
2011-2012	1760489	26.00
2012-2013	2271030	29.00
2013-2014	2975049	31.00
CGR	12.52	-
$\overline{X}$	1037011.53	-
SD	756910.30	-
CV	72.99	-

Source: National Horticulture Board (2000-2014).

of growth in terms of values in rupees lakhs during the study period. The mean magnitude of floriculture production in India has registered Rs. 1037011.53 during 15 years period. The data reveals that floriculture production in India has registered above the mean magnitude level after 2009-2010 and before that the production of floriculture has recorded below the mean magnitude. The coefficient of variation recorded 73 per cent; it shows that the annual production of floriculture in India has been registering a fluctuation in the production of floriculture during the study period.

Domestic consumption of floriculture in India :

The total quantity-wise domestic consumption of floriculture in India has increased from 332086.17 Metric tons in 1999-2000 to a maximum of 2952630.47 metric tons in 2013-2014, the data reveals that the total consumption of flowers by India has increased nearly nine per cent in terms of metric tonnes within 15 years period.

The Annual Growth Rate of total quantity of floriculture has registered a maximum 31.58 per cent in the last year of the analysis and the minimum has registered a negative growth of -7.88 per cent in 2003-2004. The Annual Growth Rate also explains that the quantity-wise export, it has registered with a positive as well as negative sign during the study period. The Compound Growth Rate of total quantity-wise domestic consumption of floriculture has represented 14 per cent for 15 years of analysis. The mean magnitude has 1004424.57 metric tons of domestic consumption of floriculture during the period of study. The domestic consumption of floriculture in India has registered above the mean magnitude

Table 3 : Domestic consumption of floriculture in India: 1999-2000 to 2013-2014 (Qunatity in MT)

Year	Domestic consumption of floriculture	Annual growth rate
1999-2000	332086.17	-
2000-2001	437439.68	31.72
2001-2002	567011.33	29.62
2002-2003	522350.94	-7.88
2003-2004	456811.20	-12.55
2004-2005	501004.13	9.67
2005-2006	581144.84	16.00
2006-2007	687673.56	18.33
2007-2008	740272.67	7.65
2008-2009	853828.31	15.34
2009-2010	1092211.46	27.92
2010-2011	1368318.78	25.28
2011-2012	1729640.11	26.41
2012-2013	2243944.90	29.73
2013-2014	2952630.47	31.58
CGR	14.00	-
$\overline{X}$	1004424.57	-
SD	761599.87	-
CV	75.82	-

Source: National Horticulture Board (2000-2014).

level after 2008-2009 and the 10 years of the analysis the domestic consumption of floriculture has registered less than the mean magnitude level. The coefficient of variation reflects that the highest variations among the year-wise analysis of domestic consumption of floriculture during the study period.

Production of loose flowers in India :

The production of loose flower in India in terms of thousand million tones and its annual growth rate during 1999-2000 to 2013-2014 is analysed in Table 4.

The total production of loose flowers has increased from 509.00 thousand million tons in 1999-2000 to a maximum of 1867.53 thousand million tonnes in 2013-2014. It shows that the quantity-wise production of loose flowers in India has increased nearly four times in terms of thousand metric tonnes. The production of loose flowers in India has been fluctuating over the years during the period of reference. The Annual Growth Rate of loose flowers production in India has been fluctuating over the years during the study period. The annual growth rate has registered a maximum of 60.15 per cent in 2011-2012 and the minimum has registered a negative growth of -21.20 per cent in 2003-2004 during the period of reference. The Compound Growth Rate of production of loose flowers in India has recorded nearly eight per cent of growth during the study period. The mean magnitude of production of loose flowers in India has registered 953.66 in thousand million tons during the 15 year study period. The production of loose flowers has increased above the mean magnitude only after 2007-2008. The first nine years of production of loose flowers in India has recorded below

Table 4 : Production of loose flowers in India: 1999-2000 to 2013-2014 (in 000' MT)

Year	Production of loose flowers	Annual growth rate
1999-2000	509.00	-
2000-2001	556.00	9.23
2001-2002	535.04	-3.77
2002-2003	735.36	37.44
2003-2004	579.48	-21.20
2004-2005	659.17	13.75
2005-2006	693.40	5.19
2006-2007	880.44	26.97
2007-2008	868.40	-1.37
2008-2009	987.40	13.70
2009-2010	1021.60	3.46
2010-2011	1031.30	0.95
2011-2012	1651.62	60.15
2012-2013	1729.20	4.70
2013-2014	1867.53	8.00
CGR	8.11	-
$\overline{X}$	953.66	—
SD	448.92	-
CV	47.073	-

Source: National Horticulture Board (2000-2014).

the mean magnitude level. The co-efficient of variation has registered nearly 47 per cent of variations with production of loose flowers during study period. It shows that high fluctuation presenting in the production of loose flowers during the study period. The year-wise variation of production of loose flowers has been varying over the years and it has increased after 2003-2004 during the study period.

Production of cut flowers in India :

While long experience of flower growing in the open field conditions enable sufficient cut flower production for domestic markets, the quality of produce, in view exposure to various kinds. The production of cut flowers in India expressed in million numbers during 1999-2000 to 2013-2014 is indicated in Table 5.

The total production of cut flowers has increased from 6810.00 million numbers in 1999-2000 to a maximum of 79033.86 million numbers in 2013-2014. It shows that total production of cut flowers in terms of number (million) has registering 12 times increase during the 15 years period. The total production of cut flowers in India in terms of numbers in India has been fluctuating over the years during the period of study. The Annual Growth Rate of cut flower production in India has been fluctuating over the years during the period of study. The growth has registered a maximum of 219.03 per cent in 2001-2002 and the minimum has recorded -19.69 per cent in 2002-2003 during the study period.

The Compound Growth Rate of Cut flowers production in India has registered nearly 16 per cent growth during the period of reference. The mean magnitude of production of cut

Table 5 : Production of cut flowers in India: 1999-2000 to 2013-2014 (in million no's)		
Year	Production of cut flowers	Annual growth rate
1999-2000	6810.00	-
2000-2001	8040.00	18.06
2001-2002	25650.00	219.03
2002-2003	20600.00	-19.69
2003-2004	17926.00	-12.98
2004-2005	31760.00	77.17
2005-2006	27618.00	-13.04
2006-2007	37156.00	34.54
2007-2008	43654.00	17.49
2008-2009	47942.00	9.82
2009-2010	66671.00	39.07
2010-2011	69027.40	3.53
2011-2012	75066.00	8.75
2012-2013	76731.90	2.22
2013-2014	79033.86	3.00
CGR	15.85	-
$\overline{X}$	42245.74	-
SD	25465.76	-
CV	60.28	-

Source: National Horticulture Board (2000-2014).

flowers has registered 42245.74 in million numbers of cut flowers during the 15 years of production. The cut flowers production in India has registering below the mean magnitude during the first eight years of the study period and after 2007-2008, the cut flowers production has registered more than the mean magnitude level. The co-efficient of variation has registered nearly 60 per cent of variations in production of cut flowers during the study period. It explains that the year wise variation in production of floriculture has been fluctuating over the years during the period of reference.

Quantity-wise and value-wise export of floriculture in India :

The Government of India has identified floriculture as the sunrise industry accorded it 100 per cent export oriented status in terms of foreign exchange earnings and the Government of India during the Liberation era, it has identified the floriculture is one of the flourishing industry. The total quantity of floriculture export in India and the export of floriculture in terms of value in rupees during 1999-2000 to 2013-2014 is indicated in Table 6.

The total quantity-wise export of floriculture in terms of metric tons has increased from 18803.67 quantities in 2001-2002 to a maximum of 42515.44 metric tonnes in 2006-07 metric tonnes and the following years the quantity-wise export of floriculture has been fluctuating with a diminishing trend. The Annual Growth Rate of quantity-wise export of floriculture in India has been fluctuating over the years during the period of reference. The Annual Growth Rate of quantity-wise export of floriculture registered maximum of 41.89 per cent in 2002-2003 and the minimum has recorded -70.28 per cent in the second year of study period. The

Table 6 : Quantity-wise and value-wise export of floriculture in India

Year	Quantity (in MT)	Annual growth rate	Value (in Rs. Lakhs)	Annual growth rate
1999-2000	84321.83	-	10501.20	-
2000-2001	25060.32	-70.28	12310.02	17.22
2001-2002	18803.67	-24.97	11532.50	-6.32
2002-2003	26681.06	41.89	16575.00	43.72
2003-2004	30648.8	14.87	24945.06	50.50
2004-2005	27757.87	-9.43	22098.58	-11.41
2005-2006	35430.16	27.64	30113.99	36.27
2006-2007	42515.44	20.00	65238.11	116.64
2007-2008	30798.33	-27.56	36881.40	-43.47
2008-2009	30749.69	-0.16	36836.91	-0.12
2009-2010	26789.54	-12.88	29412.85	-20.15
2010-2011	28895.22	7.86	29585.55	0.59
2011-2012	30848.89	6.76	36465.97	23.26
2012-2013	27085.10	-12.20	42284.66	15.96
2013-2014	22418.53	-17.23	45492.43	7.59
CGR	-7.64	-	9.19	-
$\overline{X}$	32586.96	-	30018.28	—
SD	15311.62	-	14811.88	—
CV	46.99	-	49.34	—

Source: National Horticulture Board (2000-2014).

Annual Growth Rate also recorded both a positive and negative signs during the period of reference.

The Compound Growth Rate of quantity wise export of floriculture in terms of Metric ton has recorded a negative growth of -7.64 during the study period. The mean magnitude of export of floriculture in terms of quantity in India has registered 32586.96 metric tons during 15 years period of export of floriculture. The co-efficient of variation registered a negative growth of 46.99 per cent of variation of export of floriculture in terms of quantity in India during the study period. It shows that the year-wise variation recorded in export of floriculture has been fluctuating during the study period.

The total value-wise export of floriculture has increased from Rs. 10501.20 lakhs in 1999-2000 to a maximum of 65238.11 lakhs in 2006-2007 and subsequent years the value-wise export of floriculture in India has been fluctuating during the study period. The Annual Growth has registered a maximum of 116.64 per cent in 2006-07 and a minimum has registered -43.47 per cent in 2007-2008 in the study period. The Annual Growth Rate of total value of export of floriculture in India has been fluctuating over the years during the period of reference. The Compound Growth Rate the total value-wise export of floriculture in India has recorded nearly nine per cent growth during 15 years period. The mean magnitude export of floriculture in India has registered Rs.30018.28 lakhs during the reference period. The year-wise analysis shows that a fluctuating trend has been registered during the study period. The co-efficient of variation registered nearly 50 per cent of variation of export value in terms of rupees in the total value of exports of floriculture during the study period.

Export of loose flowers in India :

The loose flowers (traditional crops like marigold, jasmine and the like) are usually traded by weight. The average price of different flowers in major markets varies considerably depending on the period of availability. Floriculture export of cut flowers is likely to grow during the month of February. Demand in the month of February was better than in other months. It is seen that cut flowers in the largest group sharing nearly 72 per cent value of floriculture exports. The export of loose flowers and cut flowers in terms of value in US $ during 1999-2000 to 2013-2014 is analysed in Table 7.

The total value of exports loose flowers has increased from US $7673073 in 1999-2000 to a maximum of US $ 22853283 in 2013-2014. It shows that the total value of export of loose flowers in India in terms of US dollars has increased 29 times within 15 years period. The Annual Growth Rate of loose flowers export has registered a maximum of 334.55 per cent in 2005-2006 and the minimum has registered -71.59 per cent in 2004-2005. It explains that the Annual Growth Rate of export of loose flowers in India has been fluctuating over the years of the study period. The Compound Growth Rate of loose flowers exports in India has registered only seven per cent growth for the past 15 years of export performance. The mean magnitude loose flowers export has registered US $ 15463611.20 during the period of reference. The co-efficient of variation has registered nearly 40 per cent of variation in the export of loose flowers in terms of US $ during the study period. It explains that the year-wise variation of export of loose flowers in India has been fluctuating during the study

Table 7 : Export of loose flowers and cut flowers in India (Value in US $)

Year	Export of loose flowers (Value)	Annual growth rate	Export of cut flowers (Value)	Annual growth rate
1999-2000	7673073	-	2282461	-
2000-2001	8525637	11.11	3741740	63.93
2001-2002	9587105	12.45	4121942	10.16
2002-2003	11748959	22.55	4939439	19.83
2003-2004	12684424	7.96	5189993	5.07
2004-2005	3557840	-71.95	5612521	8.14
2005-2006	15460744	334.55	6804784	21.24
2006-2007	17206224	11.29	7119552	4.63
2007-2008	18695141	8.65	7690402	8.02
2008-2009	19520267	4.41	7375410	-4.10
2009-2010	20030128	2.61	7680689	4.14
2010-2011	21602759	7.85	8387226	9.20
2011-2012	21043552	-2.59	8480436	1.11
2012-2013	21765032	3.43	8442604	-0.45
2013-2014	22853283	5.00	9286864	10.00
CGR	6.77	-	8.78	-
$\overline{X}$	15463611.20	-	6477070.87	—
SD	6097776.29	-	2053920.10	—
CV	39.43	-	31.71	—

Source: National Horticulture Board (2000-2014).

period.

The total export of cut flowers in India has increased from US $ 2282461 in 1999-2000 to a maximum of US $ 9286864 in the last year of the study period. The export of cut flowers in terms of US dollars has been always an increasing trend expect 2004-2005 and 2008-2009 respectively. The total export earnings of cut flowers from India have increased four times in terms of US dollar within 15 year period of study. The Annual Growth Rate of cut flowers export has registered a maximum of 63.93 per cent in first year of the study period and the minimum has recorded -4.10 per cent in 2008-2009 and the Annual Growth Rate of cut flowers export India has expressed in US $ has been fluctuating over the years. It also explains the Annual Growth Rate has registered both signs. The Compound Growth Rate of cut flowers export has registered 8.78 per cent during the study period. The export of cut flowers in India has registered more than the mean magnitude after 2005-2006 and the previous years it has below the mean magnitude level during the period of reference. The co-efficient of variation registered nearly 32 per cent of variations of cut flowers export in India during the study period. It explains that the year-wise variation of cut flowers has been fluctuating over the years it shows that during the period of reference.

Summary :

India is comparatively well place with regard to floriculture business because being a large tropical country and able to produce variety of flowers all round the year recently. Due to favorable climatic condition, India can supply fresh flowers. Government of India gives incentives to floriculture. Thus, this business can grow rapidly. Pune, Bangalore, Gurgaon, Hyderabad and other major metro cities are the major floriculture centres today and everyday new floriculture ventures are being set-up.

The urban peoples are consuming flowers, as high growths as well as semi-urban people are demanding more. Therefore, that domestic market of flowers both loose and cut flower are increasing. State wise floriculture production has been indicating that, developed states of India i.e. West Bengal, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra taken lead in this regard and developing states like Gujarat, Haryana, Rajasthan, Uttar Pradesh, etc are improving their position in production of both types of flowers. Export of floriculture has been increasing constantly in the following years.

In this developing stage of floriculture, business is facing problems regarding production and marketing. However, the government should help them in this regard through supporting agencies i.e. National Horticulture Board, Agriculture Processing Export Development Authority and National Agricultural Board of Rural Development and National Horticulture Mission, which is the major scheme, has been implementing with association of states. The entry of India to this rich global market is so late however in proper way to get foreign earnings. For the growth of floriculture, it has needed to exploit all resources both internal and external.

For boosting its floriculture export and to capture more share in overseas market a host of measures are to be undertaken by both the Government as well as the private agencies involved in production and export of floricultural products. Some of the issues that need immediate attention are

(i) Setting up of an export promotion council for export of floricultural products.

(ii) Increase in production value added products like dry flowers, seeds, potted plants, micro propagated plants and the like.

(iii)Organization of appropriate training for personnel involved in production and export of floricultural products.

(iv) To make the producers and exporters aware about effective quality control measures.

(v) Establishment of appropriate marketing and distribution channels.

(vi) Setting up of more export processing zones for floriculture products and the like.

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