

EXPORT STATUS OF FLORICULTURE IN KARNATAKA: AN ANALYTICAL PERSPECTIVE

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ABSTRACT

Floriculture industry is very dynamic in its varieties and trade volumes. It also gets more and more diverse in terms of global actors. Now there are about 120 countries actively involved in the floriculture industry as global manufactures with the Netherlands as an epicentre of world flower production and distribution. This paper aims at examining the recent developments of floriculture industry in Karnataka, particularly in terms of trade with other countries of the world. Floriculture export from Karnataka to various destinations has been observed in the study. The export performance of floriculture products in Karnataka have been examined using secondary data for the period from 2007-08 to 2015-16. Time series data covering last nine years have been used for the study. Annual Growth Rate and Compound Growth Rate are calculated by using tabular analysis and Microsoft excel. It is observed that during the study period both quantity of exports and value of exports of flowers have been growing at a rate of 0.24% and 9.01% respectively.

Key words: *Floriculture, export, growth, sunrise, quantity and value of flower exports*

INTRODUCTION

Floriculture is the branch of horticulture that deals with the cultivation of flowering and ornamental plants for sales or for use as raw materials in cosmetic industry. Demands for floricultural products are steadily increasing both in the domestic as well as international markets. India has made significant improvement in the production of flowers, particularly cut flowers, which have good potential for export. Floriculture is important from the economic perspective as well. Officially Floriculture began in the late 18th century in England where flowers were grown in large estates, and now has spread to most other countries as well. The floral industry today has grown too much larger in proportion and offers a wide scope for growth and profits. Floriculture is the art and knowledge of growing flowers with perfection. Being a branch of horticulture, it deals with the cultivation of flowers and ornamental crops from the time of planting to the time of harvesting. It also includes production of planting materials through seeds, cuttings, budding, grafting and marketing of flowers and flower produce in India. Floriculture industry comprises flower trade, production of nursery plants and potted plants, seed and bulb production, micro propagation and extraction of essential oils. India's share in international market of flowers is negligible. India has a blooming future as far as floriculture is concerned. Enormous genetic diversity, varied agro climatic conditions offer India a unique scope for judicious employment of existing resources and exploration of avenues yet untouched.

Government of India has identified Floriculture as the sunrise industry and accorded it 100% export oriented status. Owing to steady increase in demand for flowers, Floriculture has become one of the important commercial trades in Agriculture. Hence Commercial Floriculture has emerged as a Hi-Tech activity, taking place under controlled climatic conditions inside Greenhouse. Floriculture in India is being viewed as high growth Industry. Commercial Floriculture is becoming important from the export angle. The liberalization of industrial and trade policies paved the way for the development of export oriented production of cut flowers. The new seed policy has already made it feasible to import planting material of international varieties. It has been found that Commercial Floriculture has higher potential per unit area than most of the field crops and therefore a lucrative business. Indian Floriculture Industry has been shifting from traditional flowers to cut flowers for export purposes. The liberalized economy has given an impetus to Indian Entrepreneurs for establishing export oriented floriculture units under controlled climatic conditions. Agricultural and Processed Food Products Export Development Authority (APEDA), is responsible for export promotion of Floriculture in India. The government of India offers tax benefits to new export oriented floriculture companies in the form of income-tax holidays and exemption from certain import duties. APEDA is responsible for granting subsidies for establishing cold storage, precooling units, refrigerated vans and green houses, and air freight subsidy to exports. It has been found that commercial floriculture has higher potential per unit area than most of the field crops and is therefore, a lucrative business. Now there are about 120 countries actively involved in the floriculture industry as global manufactures with the Netherlands as an epicentre of world flower trading with a share of 52.3% in global export.

REVIEW OF LITERATURE

A literature review is both a summary and explanation of the complete and current state of knowledge on a limited topic as found in academic books and journal articles.

It gives readers easy access to research on a particular topic by selecting high quality articles or studies that are relevant, meaningful, important and valid and summarizing them into one complete report. It provides an excellent starting point for researchers beginning to do research in a new area by forcing them to summarize, evaluate, and compare original research in that specific area. It ensures that researchers do not duplicate work that has already been done. It can provide clues as to where future research is heading or recommend areas on which to focus. It highlights key findings. It identifies inconsistencies, gaps and contradictions in the literature. It provides a constructive analysis of the methodologies and approaches of other researchers.

Objectives of the review are to identify the gaps in the literature which constitutes the base for the formulation of objectives and hypotheses and to arrive at suggestions for future research.

In his study of Rizwan Manzoor et.al.(2001) says that, demand of flowers is now even discernable in developing countries, where the cultivation of different types of flowers hold a promise of increasing economic return. He argues that floral business is in progress on a limited scale and it needs expansion, which requires attention of policy makers to introduce some institutional

reforms. Moreover, an effective extension service is needed to motivate the farmers towards adoption of this enterprise. The study also reveals the producer's problem like no government incentives, poor export facilities and high prices of fertilizers. Economic return covers various aspects of floriculture such as flower growing pattern, cost of production, marketing channel and distribution of consumer's rupee among various intermediaries/ functionaries involved in the marketing of flowers.

According to Muthukumaran (2004) floriculture has become an important commercial activity in agriculture. Floriculture activity has evolved as a viable and profitable alternative, with a potential to generate remunerative self-employment among small and marginal farmers, and earn the much needed foreign exchange in the developing countries such as India. And he says that the world production of floriculture is growing at a rate of 10% per year. There are currently 50 countries that are active in floriculture production in large scale and USA, Europe and Japan are the major consumers of floriculture products.

The study of Import Export Bank of India (2006) states that floriculture is an activity with immense potential for generating remunerative self-employment among small and marginal farmers and earning of foreign exchange. Floriculture activity can be defined as cultivation/ production and marketing of flowering and foliage plants, garden-bedding plants, cut flowers and greens under controlled conditions mainly for export. There are nearly 120 countries, which are active in floriculture production on large scale. The economy of some countries like Israel, Colombia is dependent on floriculture industry. India has an ancient heritage when it comes to floriculture. Commercial floriculture however is of recent origin. A consistent increase in cut flower and potted flower has made floriculture one of the important commercial trades in Indian agriculture. Emphasis has been shifting from traditional flowers to cut flowers for export purpose

Sudha.M (2006) in her study observed that hi-tech floriculture in India is synonymous with the protected cultivation of rose for export though hardly around one per cent of total area under rose was under protected cultivation. The Author observed, that initiated with a very high investment of over 250 crore this export oriented production was based mainly in the four major metro polis. The Author mentioned, the capital-intensive investment is also technology intensive and requires high maintenance cost and is a high- risk venture. Author shows the global trade in floriculture on one hand was expanding with increasing demand and scope for new entrants like Kenya and India to capture the market. However, on the other hand Indian growers so far have not been successful in doing so because of the high cost of marketing and high technology transfer costs and failure of technology to local situation leading to low capacity utilization.

According to Rossy Mathur (2006) Floriculture or flower farming as it is popularly called is a discipline of Horticulture, and is the study of growing and marketing flowers and foliage plants. Floriculture includes cultivation of flowering and ornamental plants for sales or for use as raw materials in cosmetic and perfume industry and the pharmaceutical sector. In India, Floriculture industry comprises flower trade, production of nursery plants and potted plants, seed and bulb

production, micro propagation and extraction of essential oils. He states that India has an ancient heritage when it comes to floriculture. Floriculture has emerged as an economically viable diversification option in the Indian agribusiness and has captured the interests of many new entrepreneurs into agricultural sector in recent times.

According to Pawar (2007) the agro-climatic conditions of India permit the cultivation of a variety of flowers. India is already known for its traditional flower cultivation. Now with the introduction of the centrally sponsored horticulture schemes, commercial cultivation of cut flowers such as roses, orchids, gladiolus, carnation, anthurium, gerbera and lilies, under protected cultivation has become popular. Further he adds that during 2006-07 India produced 0.83 million metric tones of loose flower and 2740 million cut flowers, from an area of 0.13 million hectares. Most of the area under open field conditions and about 500 hectares has come under protected cultivation. This is expected to increase further in the coming years. It is learnt that the cut flower cultivation under controlled environment is increasing throughout the world at the rate of 6 to 7 % per annum.

Tomar et al (2009) in their article “Marigold for year round livelihood” give importance of marigold as loose flower. This is highly suitable for cultivation under different agro climatic conditions. It is free flowering, short duration, and providing attractive colored flowers in good shape, size and keeping quality. They mentioned that to get maximum return from its cultivation its scientific cultivation needs selection of suitable varieties, quality seed, health nursery raising, adequate plant population and other cultural practices. They suggested selection of variety should be according to climatic conditions, field should be leveled, free from seasonal weeds, normal fertility and adequate facility of drainage is essential. They suggested 6-8 beds of 3 meters length and 60 cm width are sufficient for raising nursery for an acre. They also gave idea about manures, fertilizers, weed control, pinching, spacing, irrigation, etc. Authors have informed about management of diseases and insects. They estimated the net return (per hectare) from winter, early winter and summer crops comes to Rs. 40,000, 60,000 and 90,000 respectively.

Amar. B et al, in their paper intended to review on floriculture researches carried-out to date so as to recommend future research strategy and plans for boosting up the floriculture enterprise in Nepal. Altogether 14 research and technical papers were cited for the study. It has been found that research emphasis was given mainly to major cut-flowers and these were done by different organizations and institution during last decade. Most studies were concentrated on survey rather than agronomic and post-harvest studies. Floriculture Association Nepal had made several efforts for the floriculture development in the country. Since 1994, a dozen of studies have been brought on the marketing and policy level. Besides, Institute of Agriculture and Animal Science, Rampur has done several researches; especially in cut flowers viz. gladiolus, rose and carnation with respect to crop husbandry and post-harvest aspect. Similarly, National Agriculture Research Council has mandatory to cut flower research and two projects on gladiolus are underway.

In the study of Santhosh et al (2011) discussed about the present status and scope of floriculture in India and Karnataka level. The annual domestic demand for the flowers is growing at a rate of

over 25% and international demand at around Rs90000 crores. India's share in international market of flowers is negligible. Government of India has identified floriculture as the sunrise industry and accorded it 100% export oriented status. Commercial floriculture is becoming important from the export angle. The liberalization of industrial and trade policies paved the way for the development of export oriented production of cut flowers. He states that APEDA is responsible for export promotion of floriculture in India. Total business of floriculture products in India in 2005 is Rs 8174 lakhs while it increased to Rs 10117 lakhs by April 2006. There are more than 300 export oriented units in India. More than 50% of the floriculture units are based in south zone mainly in Karnataka, Andhra Pradesh, TamilNadu. Karnataka is the leader in floriculture, accounting for 75% of India's total flower production. The state has the highest area under modern cut flowers and 40 flower growing and exporting units. He said, floriculture industry in Karnataka is all set to blossom in a big way, with the export expected to cross Rs1000 crores in the next 5 years. The present volume of the state's export business was Rs100 crores with over 20 industrialists involved in the trade. The present export figure of India, which stood 23rd in the world market.

According to Debajit et al (2016) discussed the recent development of floriculture industry in India, particularly in terms of production of cut flowers and the growth of the industry and its trade with the world. Time series data covering a period of last 2 decades have been used for the study. This paper also reports on the global trade scenario for floricultural products including the major trading countries and their trade. In first decade did not see substantial growth in export of floricultural products from India. But in second decade export increased at a CAGR of 4.33%. India's share of global floriculture trade is only about 0.6%.

According to Bhuvanesh et al (2016), floriculture industry is very dynamic in its varieties and trade volume, demonstrating 6 to 9% of annual growth rate. Before the global economic recession, global floriculture industry demonstrated constant growth of 6 to 9% annually. Netherlands is an epicentre of world flower trading and the share of 52.3% in global export. Objective of the research is to study the region wise export of agriculture APEDA products to BRICS and SAARC from India and to provide necessary suggestions for export performance of agriculture products. The study is based on secondary data on export of floriculture. Time series data of 9 years (2007-2015) is collected from APEDA and tools used for the analysis is percentage analysis. In findings the overall share in total export of floriculture to Brazil was below 1%. In calculating growth rate of total export of floriculture products, nearly five years shows negative growth of floriculture products. Floriculture industry value chain has gone global through a largely concentrated in the main industry hubs near the traditional markets. General industry growth is accompanied with the increasing power of buyers in the supply chain, decreasing profit margin, growing rivalry and collaboration of industry actors in the same time.

Bhuvanesh et al (2016), stated that agriculture plays a multifunctional role with every 1% rise in agricultural productivity cutting poverty by an estimated 0.6%. Although world's agricultural exports picked up in 2005 growing by 8% in value terms, they totalled only US\$ 852bn.

Agriculture still remain the largest employs, the largest source of exports and foreign exchange earnings for the most developing countries its contribution to GDP is declining gradually. India has a large and diverse agricultural forte and it is one of the world's leading producers of agricultural products. The study intends to investigate the answer to the question of how the WTO is linked with India's export supply of agricultural product. Objective of the study is to facilitate sustained growth in export of agriculture from APEDA and to examine the product wise export performances of agriculture products through APEDA. The study based on time series data from 2006 to 2015 and required data is collected from APEDA. The study is made for the purpose of an in depth analysis of various indicators and its effect on export performance of Indian agriculture. The green revolution transformed India from a food deficient stage to a surplus food market. In a span of 3 decade, India will become a net exporter of food grains.

OBJECTIVES

The following objectives are framed for the study,

1. To study the growth of export of flowers from Karnataka.
2. To discuss the trends in export of flowers in the state.
3. To discuss the direction of floriculture export from Karnataka.

DATABASE AND METHODOLOGY

The article is based on published data by collecting information related to floriculture from books, internet sources, and relevant reports of various institutions and organizations. The present study is based on secondary data and data has been collected from Agricultural and Processed Food Export Development Authority (APEDA) and Karnataka state horticulture office, Bangalore. Nine years data were used for the study. Annual growth rate is calculated by using tabular analysis and Compound Growth Rate is calculated by using Microsoft excel 2010. The changes in the export of floriculture products from India and Karnataka to different export markets have been observed in the study.

INDIAN SCENARIO

In India, floriculture is emerging as an important commercial crop. A lot of importance has been given to this sector due to its multiple uses like satisfying the aesthetic needs of the people, creating more employment, ensuring higher rate of returns to rural people and facilitating earning more foreign exchange. Moreover, they are being used as raw materials in the manufacture of essence, perfumes, medicines and confectioneries for direct consumption. The economic reforms and liberalization policies introduced in 1991 and modified EXIM policies of 1995-96 and 1999-2002 have given fillip to floriculture sector. After liberalization, the Government of India identified floriculture industry as a sunrise industry and accorded it 100 per cent export-oriented status. In 2007-08, quantity of floriculture export was 36239 metric tons and value of export was Rs 340 crores. During 2015-16 quantity of export decreased to 22517 metric tons whereas value of

export increased to Rs 479 crores. Thus the growth rate of quantity of export has decreased by 5.91% but value of exports increased by 5.60% in last nine years in India.

KARNATAKA SCENARIO

Indian floricultural products have been attracting the world floriculture trade by increasing the productivity. The Agricultural and Processed Food Products Export Development Authority (APEDA) is managing the development and promotion of agri-exports including flowers. Karnataka is into floriculture for over 300 years. The state has the highest area under modern cut flowers, and 40 flower growing and exporting units are in state. The country's first and only flower auction centre is located in Karnataka. In 2003 The International Flower Auction Bangalore (IFAB), the operating company controlled by growers, has taken over the operations of the flower auction centre run by the State owned Karnataka Agro Industries Corporation (KAIC). The major flower exporting centres from Karnataka are BIAP (Bangalore International Air Port), ICD (Inland Container Depot, Bangalore) and New Mangalore Sea (New Mangalore Port).

Table no: 1

Quantity and value of export of flowers in Karnataka 2007- 2016

Year	Qty (MT)	Annual growth rate	Value (in crores)	Annual growth rate
2007-08	2309		28.03	
2008-09	1341	-41.92%	35.58	26.93%
2009-10	1575	17.44%	33.22	-6.63%
2010-11	1262	-19.87%	24.95	-24.89%
2011-12	2230	76.70%	32.32	29.53%
2012-13	1971	-11.61%	45.23	39.94%
2013-14	1492	-26.32%	46.61	3.05%
2014-15	1707	14.41%	52.25	12.10%
2015-16	1836	7.55%	55.79	6.77%
CGR	0.24%		9.01%	

Source= APEDA

CGR= Compound Growth Rate.

Fig 1: Annual growth rate of flower export from Karnataka- 2008 to 2016

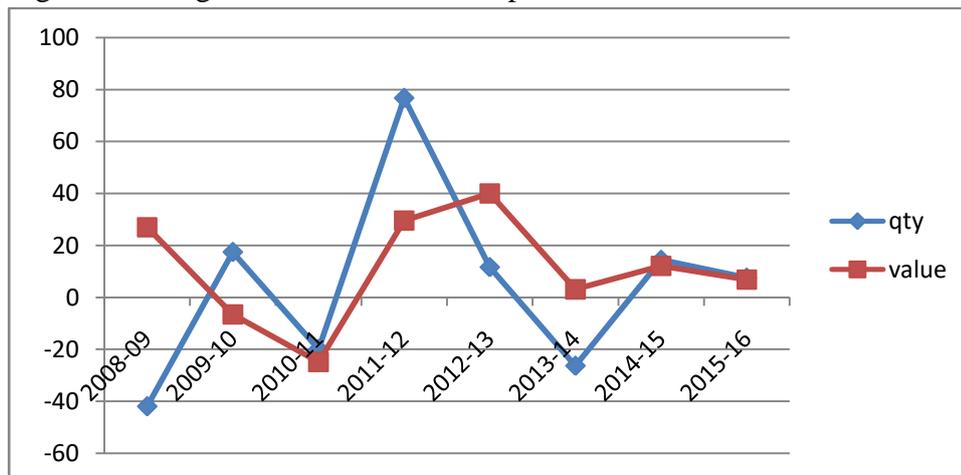


Table no. 1 reveals the quantity and value of exports of flowers from Karnataka, 2007-2016. During 2007-08 quantity of exports was 2309 metric tons and the value of exports was Rs 28.03 crores. In 2011-12 quantity of exports decreased to 2230 metric tons but the value of exports increased to Rs 32.32 crores. During 2015-16 quantity of exports decreased to 1836 metric tons whereas value of exports increased to Rs 55.79 crores in Karnataka state.

Figure no. 1 shows the annual growth rate of floriculture exports from Karnataka. In 2009-10 quantity of exports increased by 17.44% whereas value of exports decreased by 6.63%. Quantity of exports reaches its maximum point in 2011-12. During 2011-12 Karnataka's total quantity of exports increased by 76.70%. The value of exports reaches its maximum point in 2012-13 i.e. by 39.94%. In 2013-14 quantity of exports decreased by 26.32% whereas value of exports increased by 3.05%. During 2015-16 quantity and value of exports increased by 7.55% and 6.77% respectively in Karnataka state. The Compound Growth Rate of Karnataka's export in last 9 years increased i.e. quantity of exports increased by 0.24% and value of exports increased by 9.01%. Value of exports increased due to the increasing trend of global market price. Thus, Karnataka has a tremendous opportunity to increase the export potential by increasing the production as well as productivity of flowers.

MAJOR DESTINATIONS OF FLOWER EXPORT FROM INDIA AND KARNATAKA

The major import countries of flowers from India viz., USA, Netherland, Germany, UK and UAE are considered for this analysis. The remaining importing countries like Japan, Italy, France, Spain, Canada, Denmark, Belgium, South Korea, Indonesia and Thailand were pooled under 'other countries' category.

Table no: 2

Share of exports in floriculture from India to various destinations. 2007-2016

(Quantity in MT)

Year	USA	Netherlands	Germany	UK	UAE	Others
2007-08	9371.85	4745.58	4215.22	4200.85	660.23	5713.1
2008-09	7111.45	4640.16	4369.65	3589.75	762.7	6340.8
2009-10	5871.14	3146.77	3688.21	3707.26	971.66	13413.3
2010-11	7429.85	3149.47	4474.12	4298.72	822.69	16065.9
2011-12	7559.21	3923.99	5256.69	3456.23	816.85	21532.32
2012-13	6696.6	3099.15	3715.28	3191.89	1029.36	17725.17
2013-14	5158.7	1983.51	2841.16	2583.87	1026.05	14175.79
2014-15	5489.94	2060.72	2239.80	2557.16	1582.67	9015.88
2015-16	5184.32	1883.90	2336.19	2197.53	1499.02	9717.74
CGR	-5.67%	-11.11%	-8.10%	-7.42%	10.15%	5.81%

Source= APEDA

CGR= Compound Growth Rate

Table no. 2 reveals the share of exports of flowers from India to various destinations. The export of flowers to USA, Netherlands, Germany and UK have decreased by 5.67%, 11.11%, 8.10% and 7.41% respectively from 2007 to 2016. The export of flowers to UAE and other countries increased by 10.51% and 5.81% respectively in last nine years. The export of flowers from India has increased only to UAE and Other countries like Japan, Italy, Canada, Denmark, Thailand etc.

Table no: 3

Share of exports in floriculture from Karnataka to various destinations. 2007-2016 (Quantity in MT)

Year	USA	Netherlands	Germany	UK	UAE	Others
2007-08	26.38	1019.31	94.22	41.95	148.77	978.57
2008-09	9.07	244.00	67.60	61.85	105.55	853
2009-10	5.13	319.20	110.54	74.62	90.66	975.48
2010-11	6.44	321.34	82.87	35.80	69.44	747
2011-12	3.30	1178.27	95.53	60.65	137.74	1418.15
2012-13	3.48	793.43	19.67	90.64	145.79	972.23
2013-14	3.42	92.33	15.23	132.48	190.39	1059.03
2014-15	25.54	4.15	0.94	356.25	253.00	1066.76
2015-16	77.60	0.96	0.72	344.58	245.58	1166.7
CGR	10.50%	-50.06%	-46.67%	30.02%	12.09%	3.04%

Source= APEDA

CGR= Compound Growth Rate

Table no. 3 shows the share of exports of flowers from Karnataka to various destinations. The export of flowers to Netherlands and Germany has decreased by 50.06% and 46.67% respectively. But the share of flower exports from Karnataka to USA, UK, UAE and other countries have increased by 10.50%, 30.02%, 12.09% and 3.04% respectively. The export of flowers to UAE and other countries have increased both at India and Karnataka level.

In India, export of flowers to USA is decreased by 5.67% whereas in Karnataka the export of flowers to USA increased by 10.50%. The export of flowers to Netherlands and Germany has decreased both at India and Karnataka level. The share of flowers exports to UK is decreased by 7.42% at India level whereas at Karnataka level it has increased by 30.02%. The export of flowers to UAE has increased both at India and Karnataka level i.e. by 10.51% and 12.09% respectively. The share of other countries have also increased both at India and Karnataka level i.e. by 5.81% and 3.04% respectively.

REASONS FOR DECLINE IN EXPORT OF FLOWERS FROM KARNATAKA

The following are the major reasons for decline in flower exports

- Inadequate air space for flower export.

- Poor post-harvest management.
- No proper cooling transport facility.
- Sharp rise in the demand for flowers in the domestic market.

MAJOR FINDINGS

- In India, the growth of quantity of flower exports decreased by 5.91% but value of exports increased by 5.60% in last nine years.
- The share of export of floriculture from India to USA, Netherland, Germany, UK are decreased by 5.67%, 11.11%, 8.10% and 7.42% respectively, but to UAE it has increased by 10.15%.
- In 2008-09 the quantity of flower exports from Karnataka decreased by 41.92% in Karnataka.
- The value of flower exports decreased by 24.89% in 2010-11.
- In Karnataka, a huge increase in quantity of exports can be seen in 2011-12 i.e. by 76.70%.
- In 2012-13 the value of exports increased by 39.94% in Karnataka.
- In Karnataka the quantity of flower exports is growing at a rate of 0.24% whereas value of exports is growing at a rate of 9.01% in Karnataka.
- The export of flowers to Netherland and Germany are decreased by 50.06% and 46.67% respectively.
- The export of flowers to USA, UK and UAE increased by 10.50%, 30.02% and 12.09% respectively

SUGGESTIONS

Based on the secondary data the following suggestions can be made to increase the floriculture exports in general and Karnataka in particular.

- Tax exemption and cash assistance should be given to the flower exporters.
- Export regulation should be simplified.
- Subsidies should be given for the export of flowers.
- Subsidy in air cargo freight charge should be given for the flower exporters.
- Export oriented unit can be established by the government to increase flower exports from Karnataka.
- Increase the availability of credits to the flower growers and exporters.
- Proper training for the people involved in flower production, cutting, packaging and preservation and marketing is very much needed.
- Growers and retailers should have full knowledge about the world floriculture market.
- Policy interventions are needed to turn Karnataka into a prominent exporter of flowers.

CONCLUSION

It can be concluded that, the export of flowers from Karnataka is increasing slowly by 0.24% whereas the value of exports increased by 9.01% in last nine years. Karnataka is a potential state blessed with agro climatic condition for floriculture. So production of flowers should be increased in Karnataka. Floriculture has been successfully emerged as commercial sector for revenue generation by export as well as domestic consumption. Fast technological development, change in trends of market, open market and steep competition are some of the factors which regulate floricultural markets internationally. Steady supply, quality, grading, packaging and transport are also associated with successful marketing of the flowers. Floriculture is growing every year at a galloping speed and the sector has now created enough opportunities for economic growth potential in future is now termed as “Golden Revolution”. To encourage the floriculture exports, attention should be given equally to production, productivity factors, quality of produce and availability of quality planting materials. Post-harvest management system and infrastructure need to be developed. In order to increase the export of floriculture in Karnataka new strategies should be followed, which can give fruitful results on long term basis. Since worldwide floricultural trade is increasing rapidly, there is still an opportunity to India and Karnataka in achieving a consistent growth in export, thus earning valuable foreign exchange. Serious efforts should be made on the part of the government through various programs in order to increase the production and export of floriculture in Karnataka.

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