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SUMMARY, POLICY IMPLICATIONS AND CONCLUSION

10.1 Summary and Findings

Agriculture is the life-blood of Indian economy. Infact, more than 60 percent of the labour force directly or indirectly depends on agriculture. This sector contributes 28 percent to Gross Domestic Product and 18 percent to the country’s export. Whereas, in developed countries the share of agriculture in GDP is only 2 percent. In India, Punjab, Haryana, West Bengal, Uttar Pradesh, Tamilnadu, Andrapradesh and Karnataka are the leading States in agricultural activities. Karnataka is one of the largest States in the Country where the economy of the state largely depends on agriculture. Agriculture provides employment to 66 percent of the state population and contributes 33 percent to State Gross Domestic Product. The advent of liberalization has extended economic reforms in the field of agriculture sector. There is an impetus to accelerate the exports of agricultural and horticultural produce from the country. The contribution of horticultural crops towards agricultural output and export earnings of total agricultural and horticultural produce is very high considering the percent share of its exports and area covered by these crops.

India has enjoyed with salubrious agro-climate, fertile soil and abundant water enable the cultivation of an array of horticultural crops such as Fruits, Vegetables, Flowers, Plantation crops, Spices and, Medicinal and Aromatic plants. Today, India is the largest producer of Fruits followed by Brazil, which as a global share of 10 percent and second largest producer of Vegetables with a share of 13.38 percent in the total global
output after China in the world. Presently, horticulture contributes 40 percent to the total agricultural exports from the country. Karnataka is one of the leading producers as well as exporters of horticultural and floricultural products in the country. It is one of the unique States in the entire country, where we can see varied range of horticultural flora flourishing equally well like that of any other parts of the world.

Floriculture is the sub-sector of horticulture. It is not only viable, but also an immense potential for generating remunerative self-employment among marginal, small and big farmers and has gained significance from the point of foreign exchange earnings. The area under floriculture in the country was 70000 hectares with the production of 735000 tons of loose flowers and 2060 million numbers of cut flowers during 2002-03. In the country, Karnataka, Tamilnadu, Maharastra, Andrapradesh, Haryana and Rajasthan states have emerged as major floriculture centers in recent years.

Karnataka is a leading producer of flowers in the country. The cultivation of various flowers has been vogue since the Vedas and Puranas. The art and science of growing flowers is not new to this land of traditions, values and religious gaiety. With the passage of time, due to change in the life style of the people, flower growing has attained the economic importance and people have started growing flowers on economic basis. The floriculture trade is considered as flowers grown in both in open field as well as greenhouse conditions in the state. Jasmine, Crossandra, Marigold, Tuberose and Roses are traditionally grown in open field conditions. Whereas, Carnation, Gerbera, Gladiolus, Cut roses, Aster, Anthurium and Orchids are grown under greenhouse conditions in the
State. The State has 250 hectares of area under greenhouses for growing modern flowers accounting for more than 50% of India's total cut flower production and has more than 30 flower growing and exporting units. In the State, Bangalore climate is ideal, which is best suited for cultivation of cut flowers especially for cut roses round the year.

The area under floriculture in Karnataka was around 18000 hectares and production being 1.47 lakh tons of flowers, which accounted to nearly 27.12 percent of area under and 50 percent of the country's production of flowers during 2002-03. In fact, the traditional flower growers are the largest segment of flower cultivators in the state. The average holding of these growers is about 1.5 acres and they are concentrated in and around major cities and towns in the state.

The area and production under flowers showed positive growth rate of 18.6 and 21.9 percent in the State from 1978-79 to 2002-03. In the state, Chrysanthemum stands 1st followed by Jasmine for area under traditional flowers during 2002-03 with 3729 and 3720 hectares. Whereas, in modern flowers, the cut rose stands first followed by Carnation during 2002-03 with 200 hectares and 35 hectares of area under greenhouses respectively. The most of the districts in the state showed increasing trend in area under flowers except Mandya, Coorg, Udupi, Bagalkot, Gadag, Uttara Kannada, Raichur, Bellary and Bidar. In Karnataka, Kolar District stands first in respect to area and production under commercial flowers followed by Bangalore urban District. During the year 2003, the area and production of commercial flowers in Kolar and Bangalore Urban Districts were 2364 and 2202 hectares, and 17665 and 16353 tons respectively.
Rose is most important flower crop and also called as “Queen of Flowers”. This crop has a life of more than 10 years. It can be grown in both protected and unprotected conditions. The Roses grown under open conditions are largely used for making garlands, decoration and also for processing. Rose can be grown in almost all the districts of the state. It was grown under 1234 hectares with production of 2380 tons during 2002-03. Bangalore is ideal for growing Rose in the state as well as in the country. Hence, Bangalore is called as “Floriculture Capital of India”. But, as per the statistics Kolar stands first in respect to area and production of Rose cultivation followed by Bangalore rural with 252 hectares and 223 hectares, and 494 tons and 446 tons respectively during 2002-03.

The cost of cultivation of Rose per acre under open field condition in the study area is estimated to be of Rs. 48034. Of the total variable cost, the labour cost is major one, which accounts for 53.18 percent of the variable cost. But, the income over variable and fixed costs is of Rs. 86966 per acre per year.

The cost of cultivation of cut roses per acre under greenhouse condition in the study area is estimated to be of Rs. 20.86 lakh. The variable cost accounted for 66.32 percent to the total cost. Of the variable costs, the production cost is major, which accounts for 21.31 percent. The fixed cost is estimated to be of Rs. 33.68 percent of the total cost. But, the income over variable and fixed costs is of Rs. 9.93 lakhs per acre per year.
Rose, being a perennial crop, the cost of cultivation particularly fixed cost spreaded over the years as a result of the average cost will be decreased under both the conditions. The cultivation of rose under both the conditions is profitable. However, the cultivation of rose much profitable under open condition than greenhouse house condition in the state, because, the initial investment is lower than that of greenhouse and risk of maintenance is very less compare to greenhouse. If growers switch over to modern technology for open field flowers, the cultivation of Rose under the State environment seems to be viable and much profitable.

Chrysanthemum has high demand in the form of loose as well as cut flowers in the State. In popularity, Chrysanthemum is perhaps next only to Rose and has been in cultivation for more than 2500 years. It can be cultivated on small scale by most of the farmers across the state. This is four-month crop with various colours, shapes and sizes, and yielding after 2 months of its transplantation. Most of the yellow colour varieties are grown in Kharif season. Although, it is high value crop, but it requires huge investment and is water as well as labour intensive in nature. There are seven main Chrysanthemum varieties grown across the country. Among them, Chrysanthemum indicum, small flowered (yellow or white), is used for commercial cultivation for cut flowers in southern India, particularly near Coimbatore, Madurai and Bangalore. The area and production of Chrysanthemum in the state during 2002-03 was about 2961 hectares and 41743 tons. Bangalore Urban and Kolar Districts stood at 1st and 2nd place for area and production of Chrysanthemum in the state. During 2002-03, the area and production of Chrysanthemum
in Bangalore Urban was about 589 hectares and 8649 tons. While, Kolar was 384 hectares with 5811 tons of flowers.

The cost of cultivation of Chrysanthemum per acre in the study area was Rs. 23471. Of the total variable cost, the marketing cost was major one, which accounts for 32.41 percent. But, the income over variable and fixed costs was of Rs. 40889. Hence, the cultivation of Chrysanthemum appears to be profitable among the non-perennial open field flowers grown in the state.

In recent days, the cultivation of Marigold has become very lucrative on account of its various commercial uses. Since it is not season bound in the Karnataka’s plains, it can be grown throughout the year. The wide range of farmers will prefer this flower crop due to low cost of cultivation and easy maintenance. This crop has life span of 4 months. Normally, it starts yielding after one month of transplantation and lasts 2 to 3 months. The pests menace very rarely to Marigold crop, since it has medicinal contents. The acreage, in Karnataka, under commercial cultivation of Marigold has gone up dramatically. The area and production of Marigold during 2002-03 was about 4548 hectares and 43853 tonnes. In the state, Chamarajanagar District stands first under area and production of Marigold followed by Kolar District. During 2002-03, the area and production in Chamarajanagar and Kolar Districts were 1060 hectares and 601 hectares and, 10380 tons and 5418 tons respectively.
The study reveals that the cost of cultivation of Marigold per acre in the state was Rs. 12475. Of the total variable cost, the labour cost is major, which accounts for 49.6 percent. But, the income over variable and fixed costs is of Rs. 8865. Hence, the cultivation of Marigold appears to be poor farmer crop and also profitable.

In the state, among the perennial crops, rose is best fitted for prevailing climatic conditions. The cultivation of rose under open condition is much profitable than that of rose grown under greenhouse condition for catering the needs of domestic people. The quality conscious by the growers would be beneficial, because people are aware of quality of flowers in the recent times. Chrysanthemum being highly water and labour intensive crop, it is best suited for prevailing climate and also for better price realization with shorter duration among the loose flowers grown in the state. The initial investment for chrysanthemum is much lower than that of Rose, but higher than marigold grown under open condition. Marigold is suitable for those farmers who are economically weak in the state. Though, the cultivation of above mentioned flower crops are profitable, preferentially Rose stands first followed by Chrysanthemum and Marigold respectively among the commercial flowers grown in the state.

Karnataka has embarked on a massive infrastructure expansion programme aimed at providing to floriculture industry with world-class facilities at competitive prices. Karnataka has a good network of roads, ports, airports, Hydro-Electric Power Generation Station, strong institutional finance and rapid development of communication sector and other infrastructure facilities to develop and promote the floriculture in the state and also
for widening Country’s exports. Apart from this, several programmes initiated for the development of floriculture industry by the State Government such as new agricultural policy of Karnataka 1995, amendment of land reforms act 1961, which helps the non-agriculturist can purchase the land upto 109 acres to take up flower cultivation, introduction of Model Floriculture Village (MFV), Commercial Tissue Culture Laboratory, establishment of cargo centre at Bangalore airport, identifying AEZ exclusively for floriculture, extension of subsidy minimum of Rs. 30 lakh each to flower growers and also establishment of international auction centre at KAIC, Bangalore.

In addition to this, APEDA set up an International Flower Auction Centre on the lines of Netherlands Alasmer International Floriculture Auction center with the help of KAIC and it also played key role in creation of AEZ for floriculture, for extending financial package, assistance for replacement of planting materials, establishing marketing facilitation centre and cold storage facility at major airports, restructuring airfreight subsidy, reduction of import duty and marketing of flowers in domestic as well as international markets.

Whereas, NABARD helps in refinancing extensively for the development of the flower sector, encouraging specific flower crops in intensive floricultural zones, making available planting materials in large scale and also necessary inputs like fertilizers and packing materials, encouraging organized auction centers in different intensive flower growing areas to safeguard the producers/growers and enable them to control the marketing of their products, creation of more awareness regarding use of flowers through
media and other agencies to public and also more exposure of floriculture products during consumer exhibitions, encouraging florist organizations as co-operatives for more systematic functioning of domestic market, retailing of flowers through super markets in addition to special florist shops to encourage the consumption of flower especially in metro cities, effective implementation of Lab to Land Technology Transfer, promotion of interaction between growers and scientific institutions and strengthening research facilities for floriculture to meet the requirements of local growers.

NHB (National Horticulture Board) facilitates in financing, developing the post harvest technology and infrastructure, and for marketing of flowers in domestic as well as international markets. SIFA is an organization of the flower growers in southern India. It looks after marketing of flowers of member growers and arranging charted flights with the support of APEDA for exports. It is also helping the growers in fixing the base price in the auction markets located in KAIC premises. Apart from this, SIFGMCS, KFDB, KAIC are very keen in encouraging the blooming sector in the state at several points of view.

The post harvest handling includes right from the stage of harvest upto packing and transport of the flowers. However, quality of flowers is not only affected by careful post-harvest handling, but it is also influenced by several pre-harvest factors such as climatic factors namely light, humidity, temperature, etc. More over, flower growers have little understandings of the requirements of post harvest handlings. Since the flowers are
cut from the parent plants that require special preparation after the harvest so as to maintain freshness and to realize better returns.

The harvesting of different flowers under open conditions took place at different timings. Roses, Chrysanthemums and Marigold under open conditions are normally plucked in the afternoon. These timings are mostly preferred by the farmers as the atmosphere is cool during this period, which is important to maintain the freshness and quality of the flowers and less post-harvest losses. Those flower growers, who are little away from the city market, harvested the flowers in the evening and brought it to the market the next morning. None of the traditional flower growers has pre-cooling or cold storage or cold chain during post harvest handling of their produces. After harvesting the traditional flowers, they are packed either in loose form or in bundle form in gunny bags, polyethylene bags or bamboo baskets. The flower growers bring their flowers to the market places early in the morning through various available modes of transport such as Buses, Cycles, Tempos and Trucks. None of the farmers were undertaken scientific grading of flowers before marketing.

In case of Roses grown under protected conditions would be harvested in the early morning or late evening to avoid the heat of the day. Even if the correct harvesting stage is identified by the harvester, damage can occur during the process of cutting, handling, collecting and transporting the flowers to the cold store. The careless cutting causing bruising or crushing of the stems or tearing of the tissue, results in excessive bleeding of sap. This encourages bacterial infection and reduces the stem’s ability to take
up the water. The harvested bloom needs to be placed in cool water as soon as possible after cutting. Then, it should be transported to the cold store as quickly as possible.

Cleaning with water directly pumped from deep tube well is suitable. Cut flowers are graded according to the specific standards and grades of each importing country. Normally, flowers are graded on its stem length, stem strength, number of leaves, stage of development of the flower, appearance, blemishness, free from pests and diseases, etc. After grading, it has to be packed scrupulously. Packing is carried out in three stages bunching, wrapping and sleeving, and packing into boxes. Each bunch must contain the exact number of stems stipulated for the bunch, usually 5, 10, and 20 numbers or as per the requirements of importers. The bunches should be carefully put together without damaging the blooms and leaves and secured with a rubber band at the base and close to the bunched heads. However, the wraps tend to retain moisture and run the risk of fungal attack.

Telescopic corrugated boxes are generally used for transporting the cut flowers. They vary in size according to their source and destination. Quality board should be used (usually 2-3 ply), it should be strong enough to withstand the trauma of transportation. Boxing should be completed immediately before shipment and flowers pre-cooled by forcing a draught of cold air through the box to bring the temperature down to the ideal storage temperature.
Normally, cut flowers are sold by a variety and each box should carry a single variety. Large clear printed labels on each end of the box, rather than handwritten labels or scrawling haphazardly somewhere on the carton, add to professionalism and presentation. The labels should describe the box contents, the number of stems/bunches, the colours, the grade and, where required, particularly with Roses, the variety. The box should also clearly identify the farm (i.e. provide its name, address, telephone and fax numbers, along with any logos or advertising). A refrigerated van for transport to the airport should, therefore, be used.

The marketing of flowers is a complex process as the produces are highly perishable. However, the marketing of traditional flowers takes place in various ways in the study area. Some open field growers send their flowers to the specified Commission agent/Mandi Agent/Wholesaler in the market through transport agent who collects the flowers from a group of the growers. The transporter is paid monthly/weekly for his services and some growers send their produces along with one of their fellow growers to the pre-harvest contractor.

The marketing of flowers from growers to Mandi sellers/Wholesalers/Commission agent to Retailers to ultimate Consumers is the best among the prevailing marketing channels for traditional flowers in the study area. However, few farmers sell their produce to Pre-harvest contractors because they are financed at the time of raising the crop on condition as that they have supplied their crops to them.
In case of cut flowers, most growers sell their flowers to overseas buyers. The demand for cut flowers is emerging very fast in the state. Some growers sell their flowers to big domestic organization like Hotel, etc., and rest of the growers who are not able to fulfill the international norms or the flowers seized from the exports would sell their produce in the domestic markets like KR Market, KAIC auction centre, etc.

The global floriculture industry is emerging rapidly, which is known as global bloom, due to globalization and its effect on income development in the different regions of the world. The cut flowers contribute more than 60% of floriculture trade in the World. Cultivating cut flowers has become a widespread activity throughout the world. Statistically, cut flower cultivation is known in 145 countries. At present worldwide consumption of floricultural products is estimated to be around US $ 40 billion, of which nearly US $ 26 billion is contributed by cut flowers alone. Consumption of cut flowers is concentrated in three areas i.e. Western Europe, North America and Japan. Japan is the largest consumer of cut flowers followed by USA. Consumption of flowers is rising not only in Japan but also in other Asian countries with rising expendable incomes and a flower minded culture and consumption.

The global floriculture industry is growing at an annual rate of 15 percent. Netherlands is the largest exporter of cut flowers (68% of World exports) and potted plants (51% of World exports) accounted to 60 percent of World floricultural exports and is regarded as a centre for world flower trade. It is followed by Columbia with 9% share.
of world cut flower exports. Italy is the third largest producer of cut flowers in terms of value. Total import/export trade of cut flowers in the world is estimated to be around US $ 4000 million. The main importing countries are Germany, USA, United Kingdom, France, Netherlands, Japan, Switzerland, Italy, Belgium, Denmark, Canada and exporting countries of cut flowers are Netherlands, Columbia, Israel, Kenya, Ecuador, Italy, Thailand, Spain, Zimbabwe, France and New Zealand in terms of value. In fact, the share of Netherlands in the total exports has come down from 68% in 1991 to 56.5% during 2005. This is due to increasing share of exports from developing countries like Columbia, Kenya, Ecuador, Thailand, Zimbabwe, etc. India has also appeared in the world cut flower trade with 0.56% percent share of world flower exports.

The Indian flowers are either exported to world over in the form of seeds, capsules and raw or dried flowers. Flower exports from the country, which accounted to Rs 210 crore during 2004-05, is expected to register a 25 percent growth in the following years. After liberalization, the Government of India has identified floriculture as a sunrise industry and accorded it 100 percent export oriented status. In the country, Karnataka was the first to promote the floriculture. The state contributes more than 60% of the country’s flower exports. Bangalore alone contributes more than 2/3 of the total state flower production and 80 percent of total state flower exports, which is also called as ‘Floriculture Capital of India’. Today, Indian market share in the global flower trade is about $ 20 million, which is less than 1 percent in the world flower trade. The major destinations for Indian floricultural exports in terms of value are USA (23.08%), Netherlands (13.18%), UK (11.99%), Germany (9.92%), Japan (7.43%), Italy (4.27%), France (2.49%), Belgium (2.33%), Spain (1.42%), Switzerland (0.66%) and others
India is facing stiff competition from other developing countries like Zambia, Zimbabwe, Malaysia, Morocco and Mauritius, which are enjoying similar climatic conditions and producing good quality flowers.

10.2 POLICY IMPLICATIONS

1. The education system at the village level would help greatly, if it includes vocational course in floriculture for young boys & girls. Inclusion of meaningful practical education would be of use in terms of economic benefits as well as social acceptance of rural boys & girls attending the school.

2. To enable women farmers to take advantage of the developments in floriculture, it is important to bring changes at the policy level like provision of higher subsidy to women owned farms and field extension level to encourage women farmers to take up greenhouse technology. The organization of knowledge and skill training for women farmers either exclusively for them at the village level or along with their male family members at the model floriculture center need to be encouraged.

3. The special package may be extended for liberal and timely credit in the form of crop loan to the open field flower growers to meet out the higher initial expenditure. This would help the growers to have bargaining power and enjoy the freedom of selling. Hence, an exclusive committee needs to be constituted to recommend the concerned banks to take a decision on various aspects of rehabilitation of floriculture units (Greenhouse).
4. Most of the floriculture units running in and around Bangalore have been financed by NABARD, APEDA, NHB and some other institutions. Even though, floriculturists in the state so astute in disclosing the information with regard to financial package and other assistance extended by said institutions. Hence, to understand the status of help rendered by various agencies, an effort is needed to compile the assistance extended to this sector and also to overcome this data gap.

5. Area under flowers is expanding at a faster rate. More and more farmers are becoming aware about profit in growing flowers. Many innovative farmers grow the commercial flowers with a great zeal under open as well as greenhouse conditions after knowing the profit from this source. In spite of abundant and varied production base in the State, the productivity of the flowers under open condition is not up to the mark, which is in developed countries exclusively for floriculture. It needs to make available proper knowledge about the use of quality planting materials, high yield variety seeds/plants varieties, irrigation, integrated pest management, suitable modern technical know how so that growers may increase the productivity.

6. The cut flower production under protected conditions is a highly capital intensive agri-business activity. It is so difficult for new entrepreneurs to venture into it. The cost of building of greenhouse is too high and often industry has to be upgraded with new technology and innovative processes to meet the international standards, which are being imported from Israel, Netherlands and some other countries by paying
higher prices. Hence, the indigenous production based technology needs to be developed and make it available at a cheaper price, which would help the growers in making appropriate investment decisions.

7. The infrastructure in the state is emerging at a faster rate. However, the development of infrastructure has not kept pace with development of floriculture industry. Therefore, the government may set up a special task force with the objectives of obliterating the above said drawbacks afflicting the floriculture industry to make it prospective foreign exchange earner in the country and state as well.

8. In Karnataka, traditional flower marketing is not well organized. At present, in Bangalore, the flower trade takes place in KR market and some other corners of the city, which are not enough spacious to deal traditional flowers grown in open field at surrounding Districts of Bangalore. The most flowers are marketed through Wholesalers, Commission agents, Mandi agents with or without brokers. So that most of the traditional flower growers are switching over to flower markets of neighbouring States. In order to avoid their diversions and to ensure the better returns to the domestic growers, the establishment of an exclusive market with required infrastructure facilities to handle the traditional/loose flowers is essential. Apart from this, a system, which is similar to KAIC auction centre, may be developed for flowers grown under open condition to avoid the grower’s exploitation, which would help in increasing not only area but also yield at the study area.
9. KAIC auction center should ensure the participation of more number of traders/florists by relocating it at a central place. This will facilitate the sale of seized quality flowers from exports to the local florists, which would help the growers to make up the huge burden. As domestic demand for cut flowers is accelerating, KAIC auction centre is not sufficient to deal the floriculture business of the state, so an effort should be made to establish the auction centre at various prime places of the state ensuring required infrastructure facilities to expand the domestic market and also to attract foreign buyers.

10. To take care of the price risk (due to wide fluctuations), the data maintained by KAIC auction centre is not sufficient to reflect the price variations in various cut flowers auctioned in the auction centre other than cut rose. With this information it would not be possible to draw any inferences with regard to prices of cut flowers grown in the state. Hence, a separate body at the state level is required to compile and publish the daily prices of various cut flowers as well as loose flowers grown in the state as similar to other agricultural produces.

11. There are agricultural produces co-operative marketing societies in the state to deal particular produce at various places such as HOPCOMS, CAMPCO, Coffee Growers Co-operative Society, Milk Producers Co-operative Society, etc. which are playing a major role in procuring and marketing of agri-produces. Similarly, a separate organization may be set up exclusively for flower procurement and marketing in the state, which would help the growers to have remunerative prices for their produces.
12. The processing industry needs to be encouraged nearby flower producing centres. This will facilitate the credit facility to flower growers and jointly supervise the cultivation and harvesting similar to sugar cane industry in the state. It will fence the entering of pre-harvest contractors and moneylenders as industry can give guarantee to the producer to off-take the produce at mutually agreeable prices. This will help in making integration between growers and processing industry for processing the flowers to cater the needs of the consumers throughout the year at an affordable price and indirectly this will result in eliminating the unemployment problems in surrounding areas.

13. In floriculture, due to lack of market information most of the flower growers especially from open field cultivations are largely depending on intermediaries, which lacks the knowledge of the growers about arrivals, prices, introduction of new varieties/breeds, value added packaging of flowers at various places of the state as well as in the country. However, the National Horticulture Board is publishing market information for horticulture as well as floriculture through the publication, which is not sufficient to perceive the information by all the growers. So, it is essential to telecast the information through various media such as television, Radio and also through local news dailies, which would educate the flower growers and facilitate in taking the decision for planting the crop in future.
14. The setting up of Agri-Export Zones for promotion of floricultural exports is quite essential. AEZ needs to be set up within a definite time frame, so that competitive edge and the profits in export of floricultural products can be realized within the minimum time.

15. The airports are not well designed with required infrastructure for flower exports from the state and country as well. The majority of airports are not equipped with cold chain/cold storage. The late clearance would reduce the quality of flowers. So, cool units should be established for maintaining the quality of flowers at the airport till the departure.

16. Lack of cargo space and international flights to major flower markets across the world, and higher flight charges paid by the exporters would despair to grow exportable quality flowers. Apart from this, European countries charge higher import duties on Indian flowers, which would handicap the development of sun rise industry in the country. So, it is so essential to take up this issue by government on European countries to reduce the import duties to encourage the industry.

17. Regular interaction between researchers and floriculturists is highly essential.

Training for growers, exporters and other stakeholders are required; this would change the scenario of flower industry in the state.
10.3 CONCLUSION

Karnataka is a leading flower producing state in the country. With the passage of time, due to change in the life style of the people, flower growing has attained the lucrative importance and people have started growing flowers on economic basis. The state has more than 1/2 of India’s flower production and the productivity of some flowers in Karnataka is far better than the national average but still there is a wide variation in actual yield and also there is a high cost of production, which would decrease the share of the net returns from these flower crops. Therefore, it requires concerted efforts on the part of growers to adopt modern technology of production and better post harvest management of these flowers.

Though the state has provided the infrastructural facilities like transport, energy, communication, finance and storage, there is a need to expand such facility. Apart from these facilities, the government also focused on Model Floriculture Village, Commercial Tissue Culture Laboratory, Cargo Centre at Airports, Agri-Export Zone exclusively for Floriculture, International Auction Centre, favourable agricultural policy and developmental works initiated by various institutional bodies, etc. However, these facilities have to be further strengthened and efficient to capture the overseas markets.

Proper post harvest management is utmost important to maintain the international quality standards of flowers for export markets. A systematic formation of an effective package of economic and marketing strategies are also important.
There is a need to establish the flower processing units nearby flower producing areas. This will provide timely finance, generate employment and most importantly improve the living standards of the flower growers.

There is a need for organized market for open field flowers with required infrastructure as similar to Karnataka Agro Industries Corporation auction centre. However, KAIC auction centre should be renovated at the international standards to meet the needs of the domestic consumers and to attract the international buyers. This will help to avoid the wide price fluctuation of cut roses in the state. There is a good demand for Indian flowers in the international markets and all flowers grown in Karnataka can be exported, if proper guidance is given to the growers on how to produce quality flowers. The export potential should be enhanced further through improved productivity and quality, better technology, improved standards to meet international quality specifications.

After the liberalization, there is a stiff competition from developing countries, in this regard, relaxation of trade norms, associated incentives, subsidies, lower import duty on greenhouse materials, huge cargo space in the flights running towards major flower markets in the world and facilitate to easy market access during the crucial months in Europe, it is hoped that India can leap with its export efforts. It is the responsibility of the policy makers to provide appropriate incentives to the corporate sector and to assure fruitful environment for the establishment of floriculture industry potentially in the state as well as in the country. Greater
coordination between the central and state with a harmonized policy framework will help the rapid development of floriculture industry in the state as well as in the country. The research efforts should on good varieties and cultural practices in the industry.