

ORCHID FARMING- A PROSPECTIVE ENTERPRISE IN ANDHRA PRADESH

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Abstract

Orchid farming is one of the horticultural enterprises in accelerating the growth of economy as it offers not only a wide range of options to the farmers for crop diversification but also provides ample scope for sustaining orchid industry which may generate huge employment opportunities. Orchid research and development has been given focussed attention in Andhra Pradesh with congenial climatic conditions for tropical orchids especially in the coastal districts. As a result of certain policy and technological initiatives with logistic support, orchid cultivation, in Andhra Pradesh is gaining momentum as sustainable and viable venture for the farmers; besides this sector has also started attracting entrepreneurs for taking up orchid cultivation as a commercial venture. A progressive farmer from East Godavari district, Andhra Pradesh who started orchid farming in 2000 sqm land (with 25,000 plants) with the support of the Department of Horticulture in May 2019, has started getting high returns indicating thereby that orchid cultivation may prove as a good opportunity for other farmers as well in the state to take up orchid cultivation. Therefore, there is a great scope for the orchid industry to grow and flourish, in the country.

Introduction

ORCHIDS BELONGS to one of the largest plant families Orchidaceae, comprising of about 736 genera and 28,237 species worldwide, exhibiting flowers with varying sizes, shapes, and colours (Christenhusz and Byng, 2016; Willis, 2017). Orchids are the natives of tropical countries and occur in the humid tropical forests of South and Central America, India, Ceylon, Burma, South China, Brazil, the Philippines, New Guinea, and Australia (Rao, 1979). India is known for its rich biodiversity, and one of its dominant plant families is Orchidaceae consisting of about 1,350 species in 185 genera occurring in diverse phytogeographical conditions ranging from tropical, subtropical, and temperate conditions with varying microclimates (Hegde, 2020). Raju *et al.* (2008) reported 77 orchid species from Andhra Pradesh and Rao *et al.* (2009) reported 56 orchids from Eastern Ghats of Andhra Pradesh with 11 from the Talakona sacred grove.

Orchids are commercially traded for a variety of purposes, such as ornamental plants, medicinal plants, and food (Pandey and Bhatt, 2021; Sharma, 2021). There are also other emerging areas of commercial use of orchids, such as in perfumes and cosmetic products.

Orchid Import and Export

Thailand is dominating in both production and export with 87% share in exports, followed by Singapore, Malaysia, Indonesia, and Srilanka in recent years. Japan and European countries are the major importers for tropical orchids as cut flowers with fetching price ranging

from Rs. 100-3,000 per single entity in terms of Indian currency. New Zealand stands first in production and export of temperate orchids, followed by Australia and South Africa. Gradually, there is a demand for potted orchids, globally. Many of the tropical orchid species besides many hybrids are good for pot culture.

Commercially important temperate orchids are mainly grown in Sikkim, West Bengal (Darjeeling), Arunachal Pradesh, and other NorthEastern states. The tropical orchids are mainly grown in Kerala (Trichur, Trivandrum, Kozhikode, and Quilon), Karnataka (Mangalore), Maharashtra (Pune, Mumbai, and Aurangabad), Tamil Nadu (Chennai-Natural synergies), Goa, and in a few districts of Andhra Pradesh, Uttar Pradesh, Uttarakhand, and Himachal Pradesh. The majority of the orchids in India are being imported from Thailand, and Netherlands. Thailand is the largest exporter of orchid cut flowers to India (80.67%) followed by Netherlands (15.54%), New Zealand (2.29%), and China (1.5%) (De, 2020; De and Pathak, 2020; Thammasiri, 2020).

Scope of Orchid Cultivation in Andhra Pradesh

In Andhra Pradesh, Agriculture and Horticulture are the main economic activity of the people for their livelihood. It has been observed that 975 km coastline of Andhra Pradesh has a high level of humidity, which creates a good climate for growth of tropical orchids. There is a good demand for orchid cut-flowers in cosmopolitan cities. The demand and rate of the *Dendrobium* orchids depends on the quality, colour, number of florets per

spike, and length of the spike. Once the flowers reach the market place, best quality spikes are separated and then distributed to various parts of the country and exported. With the advent of Hi-tech horticulture in Andhra Pradesh, more emphasis has now been given on the high returns from cultivation even in a small area. Hence, cultivation of especially tropical orchid species of genera such as *Aerides*, *Dendrobium*, *Mokara*, *Phalaenopsis*, and *Vanda* in the coastal districts of Andhra Pradesh may be suggested (Fig. 1).

The tropical orchids are reported growing well in coconut orchards in Kerala since long time. The initiation of growing orchids in rubber plantations has also given good results in Assam and paved for new innovative dimension for commercial cultivation on large scale in that state (Upadhyaya *et al.*, 2005). In this connection, plantation crops like oil palm and coconut are being cultivated in 170 thousand ha and 117 thousand ha area, respectively in Andhra Pradesh (Anonymous, 2020); the humid microclimate created by these plantation crops inside the orchards makes growing of tropical orchids easier. Since most of the tropical orchids are epiphytic in nature and thus can be successfully grown on the trunks of coconut and oil palm. Hence, there is a considerable scope for cultivation of orchids, especially tropical orchid hybrids such as *Dendrobium*

(Sonia-17, Sonia Galaxy, Paramount, Ashahi Pink, Sahuara Pink *etc.*), Vandaceous (Iskander, Christine Alba *etc.*), and Mokara (MK Chark Kuan Orange, Pink, Yellow, Red). The global importance of these plants and realizing their export potential, Government of India has started supporting orchid cultivation through different schemes and Government of Andhra Pradesh has also taken steps in this direction. The state government agencies laid basic foundation for horizontal expansion with infrastructural facilities like shade net, polyhouse, cultivation along with planting material, input subsidies *etc.*

A progressive farmer Sri Javvadi Veerababu of Thimmapuram village, Kakinada rural mandal, East Godavari district, Andhra Pradesh started cultivation of orchids in half acre shade net and earned about Rs. 75,000 per month. He has established shade net in 2,000 sq. m, with the support of the Department of horticulture in May 2019 to accommodate up to 25,000 plants of nine months old *Dendrobium* orchids var. *Sonia* purple and *Sonia* white plants by spreading coconut husk on benches made with combination of aluminium rods and UV stabilized black colour shade net. For the establishment of 2,000 sq.m shade net, including plants, structures, irrigation facilities, supporting ropes *etc.*, has invested around Rs. 38-40 lakhs with Rs. 12.5 lakhs

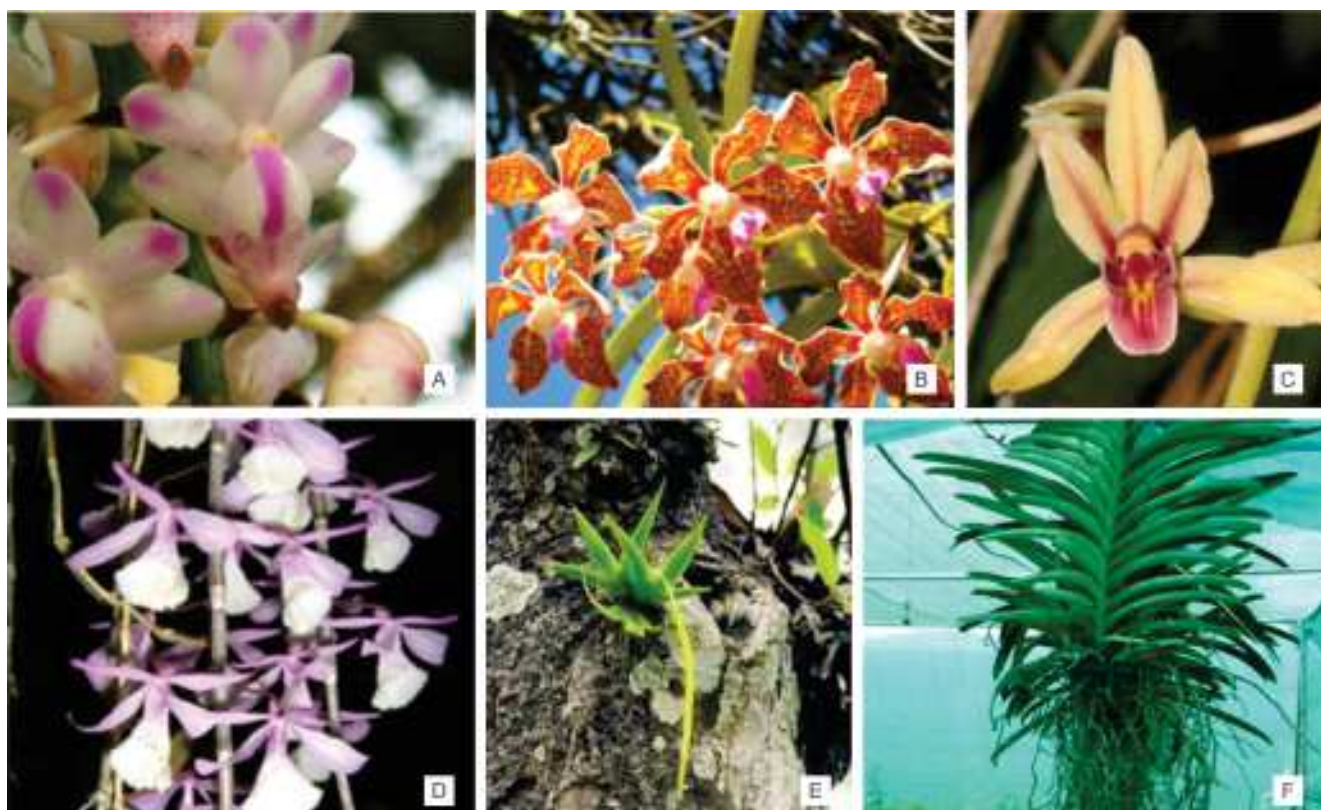


Fig. 1. A-F. Some tropical orchids in the coastal districts of Andhra Pradesh: A, *Aerides odorata*; B, *Bulbophyllum*; C, *Cymbidium aloifolium*; D, *Dendrobium aphyllum*; E, *Vanda*; F, *Vanda tessellata*.

as subsidy from Department of Horticulture, Government of Andhra Pradesh. The saplings took around 8 months to produce marketable size spikes which are generally harvested with four to six unopened buds when 70-75% of the lower flowers fully open. The first harvest was made during February, 2020 and the good produce was sent to the local market, which fetched an average price of Rs. 15/- per spike. The farmer was unable to sell the produce due to Covid-19 pandemic period. In this connection, Horticultural Research Station, Chinthapalli, Dr. Y. S. R. Horticultural University, took initiative by connecting the orchid buyers from different parts of India *i.e.* Bhubaneswar, Mumbai, and other cities to get premium price. After lockdown relaxation, the farmer continued to expand his marketing in local areas as demand increased tremendously for orchid flowers and transportation charges were negligible. At present, the farmer is getting around Rs. 70,000/- net profit per month from 2,000 sq.m area. As a result of the successful enterprise, other farmers in the district are also inspired to take up orchid cultivation in the expanded area expecting that the subsidy for shade net house as well as plant material may be given by the government of Andhra Pradesh as the initial investment in this venture is very high.

Conclusion

Orchid demand is increasing enormously owing to their elegant flower shapes, attractive colours, and long shelf life. The hilly tracts with slopes and streams form high humidity sites suited for the growth of orchids along the Eastern Ghats in Andhra Pradesh region. Coast line of the Andhra Pradesh is bestowed with favourable climatic conditions for commercial cultivation of tropical orchids especially dendrobiums and vandas. Growing of tropical orchids is feasible in coastal districts of Andhra Pradesh in protected structures as well as in coconut and oil palm orchards. Most of the tropical orchids are epiphytic in nature and thus may be successfully grown on the trunks of the coconut and oil palm. Further, consumer preference for natural flowers over artificial decorative orchids adds enormous potential for cultivation in Andhra Pradesh. Hence, orchid

farming seems to be an economically viable enterprise. Keeping in view, the commercial prospect of orchids, concerted efforts and more investment towards R&D, infrastructure and extension programmes for further development in this sector are suggested.

References

- Anonymous. 2020. *Horticultural Statistics at a Glance 2020*. <http://nhb.gov.in/statistics/Publication/Horticulture>.
- Christenhusz, M. J. and J. W. Byng. 2016. The number of known plant species in the world and its annual increase. *Phytotaxa*, **261**(3): 201-17.
- Hegde, S. N. 2020. Status of orchid industry in India. In: *Orchid Biology: Recent Trends and Challenges* (eds. S. Khasim, S. Hegde, M. González-Arno, and K. Thammasiri) pp. 11-20. Springer, Singapore.
- De, L. C. 2020. Export and import scenario of orchids in India. *J. Agricult. Forest Meteorol. Res.*, **3**(5): 402-04.
- De, L. C. and Promila Pathak. 2020. Good agricultural practices of *Dendrobium* Orchids. *J. Orchid Soc. India*, **34**: 35-43.
- Pandey, Veena and Indra D. Bhatt. 2021. Medicinally important orchids of Indian Himalayan Region: Present status and future priorities. *J. Orchid Soc. India*, **35**: 35-46.
- Raju, V. S., C. S. Reddy, K. N. Reddy, K. S. Rao, and B. Bahadur. 2008. Orchid wealth of Andhra Pradesh, India. *Proc. Andhra Pradesh Acad. Sci.*, **12**(1-2): 180-92.
- Rao, A. S. 1979. *Orchids of India*. National Book Trust India, New Delhi, India.
- Rao, R. P., B. K. Prasad, M. S. Babu, P. K. Babu, and B. Sadasivaiah. 2009. Occurrence of East Himalayan floral elements in the Eastern Ghats of Andhra Pradesh: II Orchids. *Pleione*, **3**: 152-56.
- Sharma, B. D. 2021. Utility of orchids in medicine, commerce, and societal benefits. *J. Orchid Soc. India*, **35**: 91-94.
- Thammasiri, Kanchit. 2020. Commercial aspects of Orchid cultivation in Thailand. *J. Orchid Soc. India*, **34**: 27-34.
- Upadhyaya, R. C., R. Devdas, and V. Nagaraju. 2005. Scope of orchid cultivation in oil palm plantations. In: *Proc. National Seminar on Research and Development of Oil Palm in India*, pp. 58-62. National Research Centre for Oil Palm, Pedavegi, West Godavari, Andhra Pradesh, India.
- Willis, K. J. 2017. *State of the World's Plants 2017 Report*. Royal Botanic Gardens, Kew, London, U.K.