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Cultivation, Marketing of Medicinal And Aromatic Plants From Telangana: A Review

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Abstract

United Andhra Pradesh was standing first in cultivation of medicinal plants in South India in over 35,000 acres. The medicinal plant boards of both the states are vigorously pursuing spread of cultivation of medicinal and aromatic plants, as they yield much more revenue than many commercial and traditional crops. The global trade of aromatic plants across the world stands at \$4 billion to \$5 billion. These plants earn revenue of up to Rs 30,000 per acre. Cultivators of *Ocimum*, *Tenuiflorum*, popularly known as Tulasi, in some cases are earning revenue in upwards of Rs 80,000 per acre. Another medicinal plant, *Abelmoschus*, *Moschatus*, earns Rs 500 per kg which is much higher than most of the conventional crops. Aromatic plants being productively grown include rosemary, jasmine, *palmarosa* and *eucalyptus*. Andhra Pradesh and Telangana can play important roles as they are home to Eastern Ghats which have the required climatic and soil conditions for growing many medicinal plants like *Tinospora Cordifolia* (Tippa Theega), *Gymnema Sylvestre* (Podapatri), *Aegle Marmelos* (Maredu) and *Celastrus Paniculatus* (Malaria Theega). But in Telangana very less amount of cultivation and marketing was documented by this review.

Keywords: Cultivation and marketing, medicinal and aromatic plants, Telangana.

1. Introduction

Human being has been using medicinal and aromatic plants from ancient time and research workers are constantly brings to light additional information on the relationship between plants and man. The theme of ethnobotany or folkloric botany reveals interrelation of plants and man. The field verge upon the study of ethnobotany plays imperative role because of the chance of direct contact that can be recognized with the genuine information on the use of plants, both wild and cultivated from the people.

There is a rising focus on the significance of medicinal and aromatic plants in health systems, solving the health care problems of the world. Present research in drug innovation from medicinal plants involves a versatile approach combining botanical, phytochemical, biological, and molecular techniques.

Medicinal plant drug verdict continues to afford new and significant leads against different pharmacological targets together with cancer, HIV/AIDS, Alzheimer's, malaria, TB and pain. In recent times introduced drugs from plant source consist of Taxol, Podophyllotoxin, camptothecin, artemether, galantamine, nitisinone, and tiotropium. Although drug discovery from medicinal and aromatic plants continues to make available an important source of new drug leads, abundant challenges are encountered in procurement of plant materials, separation of active compounds, selection and functioning of suitable screening techniques, scale-up of active molecules etc. The scope, exploration and strategies of drug discovery from MAP's will be discussed [1].

Medicinal, aromatic plants play a significant role in the life of people and are present in innumerable forms. These plants are used as raw materials for medicines, cosmetics, perfumery, insecticides and in the various industries. A number of medicinal plants also produce essential oils as well as being used for perfumery [2].

Recently Telangana state was separated from Andhra Pradesh, There is in need to review with documented data. There was no previous report on the review with respect to medicinal and aromatic plants from this state. So that this review is being reporting.

1.1. Medicinal and aromatic plants profile

Medicinal and aromatic plants have been used in India for a extensive time for their medicinal properties. About 2,000 native plant species have therapeutic properties and 1,300 species are

identified for their aromatics. The Indian systems of medicines, prevalently known as Ayurveda, Unani and Siddha medicines are of immense stipulate in the country. There is previously a surge in demand for plant-based drugs and lately many such native species of medicinal values are being bring beneath systematic cultivation.

India has been considered as a fortune house of precious medicinal and aromatic plant species. The Ministry of Environment and Forests Government of India have

recognized and documented over 9,500 plant species allowing for their significance in the drug designing industry. Among these, about 65 plants have huge and reliable demand in world market. India however produces only limited quantities of these materials. In terms of market share in production value, India holds only the 6th place with a mere 7 per cent share. On the contrary, we are still importing about 10 types of essential oils to the tune of 8,000 tonnes per annum [3].

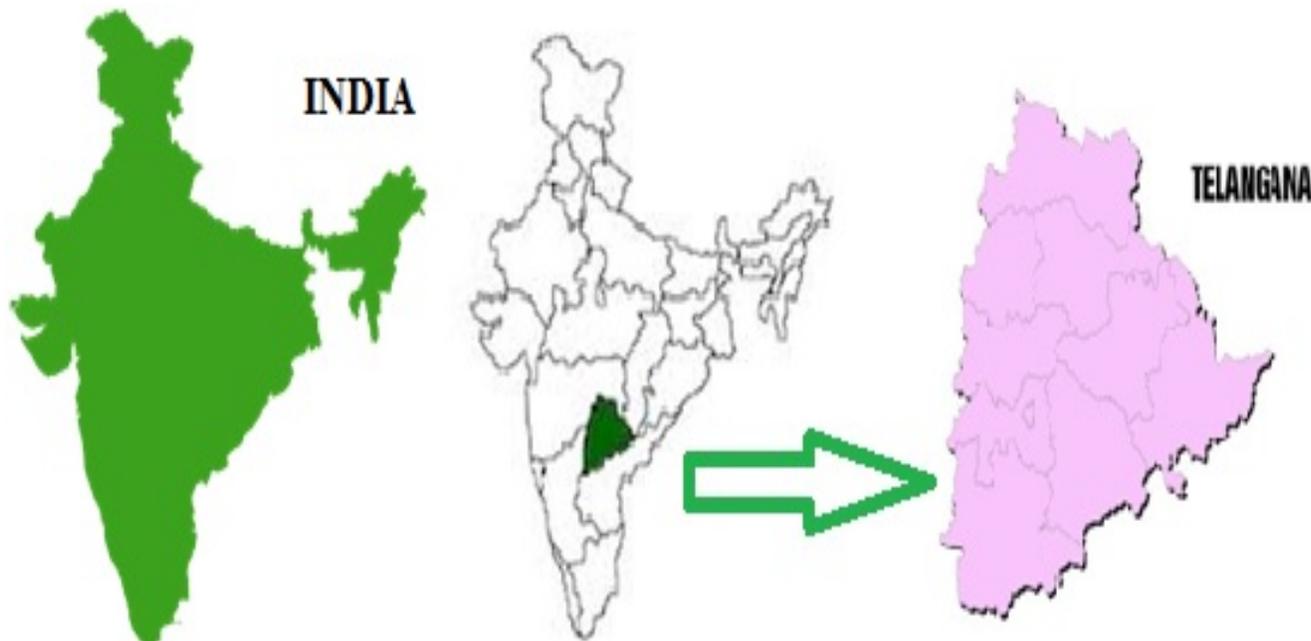


Fig 1: Location of review area

1.2. Ecological conditions of study area for the cultivation, marketing of medicinal and aromatic plants.

Telangana is positioned on the Deccan Plateau, in the central stretch of the eastern seaboard of the Indian Peninsula. It covers 114,800 square kilometres (44,300 sq mi). The region is drained by two major rivers, with about 79% of the Godavari River catchment area and about 69% of the Krishna River catchment area, but most of the land is arid [4] Telangana is also drained by several minor rivers such as the Bhima, the Manjira and the Musi.

The annual rainfall is between 900 to 1500 mm in northern Telangana and 700 to 900 mm in southern Telangana, from the southwest monsoons. Various soil types abound, including chalkas, red sandy soils, dubbas, deep red loamy soils, and very deep soils that facilitate planting mangoes, oranges and flower [5]. About 45% of the forest area of earlier Andhra Pradesh state is located in five districts of Telangana.

Telangana is a semi-arid area and has a predominantly hot and dry climate. Summers start in March, and peak in May with average high temperatures in the 42 °C (108 °F) range. The monsoon arrives in June and lasts until September with about 755 mm (29.7 inches) of precipitation. A dry, mild winter starts in late November and lasts until early February with little humidity and average temperatures in the 22–23 °C (72–73 °F) range.

The Central Deccan Plateau dry deciduous forests eco-region covers much of the state, including Hyderabad. The characteristic vegetation is woodlands of *Hardwickia binata* and *Albizia amara*. Over 80% of the original forest cover has been cleared for agriculture, timber harvesting, or cattle grazing, but large blocks of forest can be found

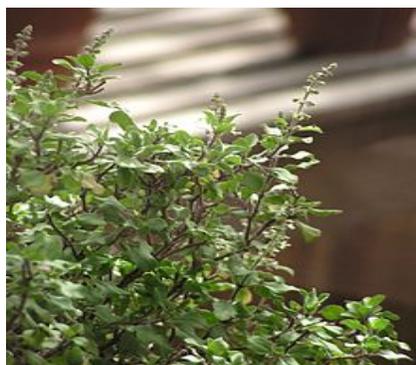
in Nagarjunsagar-Srisailam Tiger Reserve and elsewhere [6]. The more humid Eastern Highlands moist deciduous forests cover the Eastern Ghats in the eastern part of the state.

Very good climatic conditions like soil, water, atmospheric conditions were available in the study area, for the cultivation of medicinal and aromatic plants.

United Andhra Pradesh was standing first in cultivation of medicinal plants in South India in over 35,000 acres. The medicinal plant boards of both the states are vigorously pursuing spread of cultivation of medicinal and aromatic plants, as they yield much more revenue than many commercial and traditional crops. The global trade of aromatic plants across the world stands at \$4 billion to \$5 billion. These plants earn revenue of up to Rs 30,000 per acre. Cultivators of *Ocimum tenuiflorum*, popularly known as Tulasi, in some cases are earning revenue in upwards of Rs 80,000 per acre. Another medicinal plant, *Abelmoschus moschatus*, earns Rs 500 per kg which is much higher than most of the conventional crops. Aromatic plants being productively grown include rosemary, jasmine, *palmarosa* and *eucalyptus*. Andhra Pradesh and Telangana can play important roles as they are home to Eastern Ghats which have the required climatic and soil conditions for growing many medicinal plants like *Tinospora cordifolia* (Tippa Theega), *Gymnema sylvestre* (Podapatri), *Aegle marmelos* (Maredu) and *Celastrus paniculatus* (Malaria Theega). But in Telangana very less amount of cultivation and marketing was documented by this review. The most common medicinal aromatic plants marketing profile from review area shown in table 1-5 and figure 2-3.

Table 1: The most common medicinal aromatic plants marketing profile from review area.

Sl no	Common name	Botanical name	Family	Part used & for the purpose	Economic Benefits
1.	Tulasi	<i>Ocimum tenuiflorum</i>	Lamiaceae	Leaves & seeds, Medicines & cosmetics	Rs 80,000 per acre
2.	Kastuuri Benda	<i>Abelmoschus moschatus</i>	Malvaceae	Seeds, Perfumes	Rs 500 per kg

*Ocimum tenuiflorum**Abelmoschus moschatus***Fig 2:** The most common medicinal, aromatic plants from review area.

The department of forestry was completed project sanctioned from the FRLHT Bangalore through a UNDP – GOI sponsored had taken up field study and identified 8 Medicinal

Plants Conservation Areas (MPCAs) in different agro-climatic zones of Telangana state detailed given in Table 2.

Table 2: Medicinal Plants Conservation Areas (MPCAs) profile of Telangana state.

Sl. No.	Name of the MPCA	Name of the Forest Division	Range	Village	District	Area in Ha.
1	Mallur	Warangal (N)	Eturnagaram	Mallur	Warangal	197
2	Sukkumamidi	Bhadrachalam (S)	Mariguda	Sukammaidi	Khammam	200
					Total	485

(The Forest Department 2014)

1.3. Cultivation of medicinal and aromatic plants

The common herbs and aromatic plants grown detailed data was reviewed from ICRISAT in Telangana state are given in Table 3, 4.

Table 3. Medicinal herbs grown in Telangana state [7]

S.No	Common name	Scientific name	Family
1.	Senna/swarna pathri	<i>Cassia angustifolia</i>	Cesalpiniaceae
2.	Ashwagandha	<i>Withania somnifera</i>	Solonaceae
3.	Kalmegh	<i>Andrographis paniculata</i>	Acanthaceae
4.	Bhuamlaki/nelavusiri	<i>Phyllanthus amarus</i>	Euphorbiaceae
5.	Coleus	<i>Coleus forskolii</i>	Lamiaceae

Table 4: Aromatic plants grown in Telangana state.

S.No	Common name	Scientific name	Family
1.	Lemongrass	<i>Cymbopogon flexuosus</i>	Gramineae
2.	Vetiver	<i>Vetiveria zizanoides</i>	Gramineae
3.	Palmarosa	<i>Cymbopogon martini</i>	Gramineae
4.	Eucalyptus	<i>Eucalyptus citriodora</i>	Myrtaceae
5.	Citronella	<i>Cymbopogon winterianus</i>	Gramineae

(ICRISAT)

1.4. Trouble and limitation for the management of medical and aromatic plants

- Deficiency of information on wild medicinal and aromatic plants and their geographical distribution in the review

- state and their proper utilization;
- Lack of information in the study area on the ways to enhance commercial exchange.
- The variation in the local names of the same plant between the of the other or in the same country is a restriction in synthesizing helpful information;
- The proper management of medicinal plant raw material from collection to processing requiring the cooperation of researchers and technicians of several organizations and institutions;
- The deficiency of research in the development of techniques for propagation and regeneration of medicinal plants in their natural habitats due to the some of poor transport facilities to the dry areas where they grow.

1.5. Constraints for the economic expansion of medicinal plants gh

- Require of field studies on the cultivation of medicinal plants;
- Inadequate knowledge of the export companies and personnel with standards restrictions. This results in low prices for medicinal herbs and drugs;
- Lack of technologies for the management of medicinal plants and their supplies.
- Lack of marketing information regarding the international organization dealing with medicinal plants for capturing world market share.

1.6. Suggestions

- Development of strategies for collecting, surveying and identification of medicinal and aromatic plants in the Telangana, their habitats and field studies for their

regeneration.

- Development of a state level research centre for medicinal and aromatic plants.
- Encouragement to micro industries to supply the local markets with medicinal and aromatic commodities.
- Introduction and cultivation of some non-native (exotic) medicinal plants under the different climatic and edaphic conditions of the area.
- Encouragement and financing of research programs on regeneration and management of important and aromatic plants in the state.

2. Conclusion

The state is having favourable conditions for the cultivation of medicinal aromatic plants and also having very good transportations. So if the awareness and training programmes conducted to the interested formers, in the results the farmer individual economy, state ultimately country will be strong.

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