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**Gotham Bhargavi Reddy**  
Scholar (MBA Agribusiness),  
Department of Agriculture  
Economics, SHUATS,  
Prayagraj, Uttar Pradesh, India

**Dr. Ashish S Noel**  
Associate Professor & Head,  
Department of Agriculture  
Economics, SHUATS,  
Prayagraj, Uttar Pradesh, India

**Dr. Mukesh Kumar Maurya**  
Assistant Professor, Department  
of Agriculture Economics,  
SHUATS, Prayagraj,  
Uttar Pradesh, India

**Amit Kumar**  
Assistant Professor, Department  
of Agriculture Economics,  
SHUATS, Prayagraj,  
Uttar Pradesh, India

**Dr. Anupriya Paul**  
Assistant Professor, Department  
of Mathematics and Statistics,  
SHUATS, Prayagraj,  
Uttar Pradesh, India

**Thatikonda Saikiran**  
M.Sc. Scholar (Agriculture  
Microbiology), Department of  
Industrial Microbiology,  
SHUATS, Prayagraj,  
Uttar Pradesh, India

**Corresponding Author**  
**Gotham Bhargavi Reddy**  
Scholar (MBA Agribusiness),  
Department of Agriculture  
Economics, SHUATS,  
Prayagraj, Uttar Pradesh, India

## Study on marketing of medicinal plants, insulin plant (*Chamaecostus cuspidatus*) in Hyderabad district, Telangana

**Gotham Bhargavi Reddy, Dr. Ashish S Noel, Dr. Mukesh Kumar Maurya,  
Amit Kumar, Dr. Anupriya Paul and Thatikonda Saikiran**

### Abstract

The present investigation was aimed to determine the “Study on Marketing of Medicinal Plants (Insulin Plant) Hyderabad district, Telangana” the research was planned to study the socio-economic profile of growers and the marketing of medicinal plants in the study area. The insulin plant (*Costus igneus*) is a species of herbaceous plant and belongs to the family costaceae is the most important medicinal plant to cure diabetes. India is the most Producing country in the world and Telangana is one of the important Insulin plants producing states, in Hyderabad District in Telangana. It covers 50-60 percent of the nurseries in the study area. This study helps in looking out the different marketing channels mainly two markets retailer market and the consumer market. However, the growers are confronted with several challenges. These challenges include resource constraints, competition in the market, and unavailability of adequate labor. All of the growers have identified storage as a major challenge. Therefore, it is necessary to remove these bottlenecks for sustainable and efficient Insulin plant marketing in the study area. And also, the concerned authority must look through this issue and take effective steps to promote and strengthen the role of retailer markets in the state and establish a greater number of retailer markets as noted in this article.

**Keywords:** Socio-economic, medicinal plants, Hyderabad, insulin plant, marketing

### Introduction

The term “medicinal plant” includes varied varieties of plants utilized in herbalism (“herbology” or “herbal medicine”). it’s the employment of plants for healthful functions, and therefore the study of such uses. Plants are used for healthful functions long before prehistoric amounts. Ancient Unani manuscripts Egyptian papyrus and Chinese writings delineate the employment of herbs. Proof exists that Unani Hakims, Indian Vaid and European and Mediterranean cultures mistreatment herbs for over 4000 years as medication. Endemic cultures like Rome, Egypt, Iran, the continent, and America used herbs in their healing rituals, whereas alternative developed ancient medical systems like Unani, Ayurveda, and Chinese medication within which flavourer therapies were used consistently. Traditional systems of medication are still wide experienced on several accounts. Population rises, inadequately provide of medication, preventative price of treatments, aspect effects of many artificial medications, and development of resistance to presently used medication for infectious diseases have semiconductor diode to inflated stress on the employment of plant materials as a supply of medicines for a good type of human ailments. Among ancient civilizations, the Republic of India has been celebrated to be made the repository of healthful plants.

In India, medicinal plants are grown in an area of 588.00 thousand ha, with a total production of 1136 thousand tones and total productivity of 1.93 MT per hectare. (Indian stat.com 2014-2015). In Andhra Pradesh and Telangana, the total area of medicinal plants is 9,138 ha with a total production of 13.124 MT (India stat.com 2012-2013) and in the Telangana region, the total cultivated area was 1538 ha with a production of 4.410 MT (India stat.com 2012-2013). Chittoor is one of the districts in the cultivation of medicinal plants in Andhra Pradesh. The total cultivated area was 120 ha with a production of 240 MT (Indiastat.com 2012-2013) and Mahabubnagar is one of the districts in the cultivation of medicinal plants in the Telangana region. The total cultivated area was 209 ha with a production of 312 MT (India stat.com 2012-2013).

Apart from the medicinal uses, herbs are also used in natural dye, pest control, food, perfume, tea, and so on. In many countries, different kinds of medicinal plants/ herbs are used to keep ants, flies, and mice and flee away from homes and offices. Nowadays medicinal herbs are important sources for pharmaceutical manufacturing. Recipes for the treatment of common ailments such as diarrhea, constipation, hypertension, low sperm count, dysentery and weak penile erection, piles, coated tongue, menstrual disorders, bronchial asthma, leucorrhoea, and fevers are given by the traditional medicine practitioners very effectively.

### Commercialization of medicinal plants

The demand for plant-based products is increasing at the speed of fifteen to twenty-fifth annually. supported the estimate by the globe Health Organization (WHO), the demand for healthful plants is probably going to extend by quite USD five trillion by 2050.

### Global market of medicinal plant

The global herbal medicine market is projected to grow from USD 230.03 billion in 2021 to USD 430.05 billion in 2028 at a CAGR of 11.32% during the 2021-2028 period. Based on our analysis, the global market exhibited a higher growth of 8.54% in 2020 as compared to the average year-on-year growth during 2017-2019. The rise in CAGR is attributable to this market's demand and growth, returning to pre-pandemic levels once the pandemic is over. The rise in CAGR is majorly due to the increasing demand for herbal and natural ingredients from the cosmetics as well as nutraceutical industries.

**Insulin plant:** Insulin plant, called Fiery Costus or Spiral Flag or Cengalva Kostu in Telugu, is the major oriented medicinal crop cultivated in Telangana. It was reported to have been cultivated in as many as 1447 hectares in 1998-2010 and was cultivated in 35 hectares in 2015-2019. The area has declined over years at a rate of 41.15%.

**Marketing of insulin plant:** Marketing of Insulin plant is not properly organized. The channel consists of the producer, the village merchants, and the exporters, with the commission agents also having a role to play. Based on the demand for the Insulin plant from the overseas buyers, the exporters fix a price and purchase the Insulin plant, leaves, and Rhizome from the farmers and village merchants. It processes in dried and ground powder of the leaves now available in the market to export through containers.

**Global market scenario:** With the worldwide prevalence of diabetes increasing at a compound annual growth rate of 7.6 percent, the insulin market is growing as well, at a rate of 12.9 percent sales increase in 2012. The global insulin market was valued at approximately \$20.8 billion USD in 2012, consisting of numerous human insulin and recombinant products. Interestingly, all the market reports we reviewed lack information on insulin sales volume, although the Global and Chinese Insulin Industry Report had market share based on pieces (vials) produced by each manufacturer. Despite the size of the global market in terms of value, it is largely dominated by three pharmaceutical companies: Danish-based Novo Nordisk, French-based Sanofi, and American-based Eli Lilly.

**India market scenario:** Intensifying Strategic Alliances Between Companies presents a comprehensive analysis of market size by value of major types of insulin consumed in India. The report entails the segment-wise market share analysis and company profiles of major players in the insulin market in India. The Indian insulin market is witnessing the development and has yet to mature. With a huge base of diabetic patients, it is anticipated that only 25% of this population is receiving treatment. Unawareness backed by low affordability has left the major proportion of the diabetic populace to remain untreated. However, since higher disposable income is increasing the accessibility to healthcare services, enhanced diagnostics will further broaden the patient base, creating opportunities for insulin companies operating in India.

### Research methodology

The investigation was done in three phases; the first phase focuses on the sampling design used to selection of state, district, and block, while the second phase focuses on the sampling procedure. The third phase is for sources of data collection. The fourth phase is for tools and data analysis Sampling design, Sampling procedure, and Sources of data.

### Sampling design

A random sampling procedure will be adopted for the present investigation to select the ultimate unit of the samples.

### Sampling procedure

**First stage-selection of state:** Telangana state is selected among the 28 states in India as it is one of the major states growing the Medicinal plants.

**Second stage-selection of the district:** Among 31 districts of Telangana, Hyderabad district is selected because it is considered one of the districts where medicinal plants cultivation and marketing is very effective and it consists of an only urban area.

**Third stage-selection of blocks:** There are 16 blocks in the Hyderabad district. The list of Mandals was collected from the Department of Agriculture, out of which 4 blocks will be selected purposively because it consists of a major share of the market in Hyderabad and is based on the maximum number of medicinal plant growers.

**Fourth stage-selection of growers:** From the Selected blocks, A list of all the growers will be prepared out of which 25% of respondents will be selected randomly and grouped into four categories based on sales of medicinal plants in the study area.

### Source of data

#### Primary data

Primary data was collected by the survey method followed by a personal Interview with growers.

#### Secondary data

Secondary data was collected through various sources like companies, other Government officers, Research centers, authentic website, the internet, and other sources, etc.

**Result and Discussion**

The present study entitled “Study on Marketing of Medicinal Plants, Insulin Plant, in Hyderabad district, Telangana” was carried out in the Department of AGRIBUSINESS MANAGEMENT. The details of materials to be used and methodology adopted and observations recorded during the study are mentioned below.

**To work out the marketing channels of medicinal plants in Hyderabad**

**Marketing channels of insulin plant:** To study the existing marketing system of Insulin Plant in the study area Retailer market and Consumer market were selected purposively for the study. And the following marketing channels were identified in both the markets. In this study, four marketing channels in the consumer market were identified. The four channels are as follows.

**Channel-I:** Producer - Consumer.

**Channel-II:** Producer - Wholesaler - Retailer - Consumer.

**Channel-III:** Producer - Retailer - Consumer.

**Channel-IV:** Producer - Village wholesaler - Wholesaler-Retailer-Consumers on the other hand, two marketing channels in the Retailer market were identified.

**The two channels are as follows**

**Channel-I:** Producer - Wholesaler - Distant Wholesaler-Consumer.

**Channel-II:** Producer - Wholesaler - Retailer - Consumer.

**Table 1:** Respondent preferences of markets for the disposal of their Produce

Nursery Size	Retailer Markets	Consumer Market
Marginal	2 (16.66)	7 (18.42)
Small	3 (25)	9 (23.68)
Semi-Medium	5 (41.66)	12 (31.57)
Medium	2 (16.66)	10 (26.31)
All farms	12 (100.00)	38 (100.00)

Table indicates the percentage to total respondent preferences of market.

Overall, 38 respondents preferred the consumer market of which the marginal group constituted 18.42 percent, the small 23.68 per cent, semi-medium 31.57 per cent and the medium 26.31 percent. From all farms, only 12 respondents preferred Retailer markets to dispose their produce, where 16.66 per cent was marginal groups, 25 per cent small groups, 41.66 semi-medium and 16.66 medium group of growers, this might be due to the fact that the respondents do not have much knowledge about the retailer market and even if it is known to them, some of the growers are still unaware of the set-up.

**Table 2:** Marketing cost, margin and price spread in different marketing channels (Retailer market)

Sl.	Particulars	Channel - I	Channel - II
1	Net price received by producer	1074.70	1083.00
2	Marketing cost incurred by producer	125.30	117.00
3	Wholesaler purchase price	1200.00	1200.00
4	Marketing cost incurred by wholesaler	130.00	71.00
5	Wholesaler margin	170.00	229.00
6	Distant wholesaler purchase price	1500.00	-
7	Marketing cost incurred by distant wholesaler	79.00	-
8	Distant wholesaler margin	221.00	-
9	Retailer purchase price	-	1500.00
10	Marketing cost incurred by retailer	-	70.00
11	Price paid by the consumer	1800.00	1800.00
12	Retailer margin	-	230.00
13	Price spread	725.30	717.00
14	Producer Share in Consumer's Rupee (%)	59.71	60.17

Table 2 represents the channel wise marketing costs and margins of different functionaries and the price spread involved in marketing of Insulin plant in the retailer market. It shows that the price paid by the consumer was the same in both the channels (₹1800/plants) and the price received by the producers was the highest in channel-II. Again, producer

share in consumer rupee was more (60.17 percent) in channel -II and low amount of producers share in consumer's rupee (59.71percent) was observed in channel-I. The price spread in channel-I was ₹725.30 per plants and in channel-II was ₹717.00 per plants.

**Table 3:** Marketing cost, margins and price spread of different channels in Consumer market

Sl. No.	Particulars	Channel - I	Channel - II	Channel - III	Channel - IV
1.	Net price received by producer	1091.70	1040.00	1043.83	1132.00
2.	Marketing cost incurred by producer	108.30	160.00	156.17	68.00
3.	Village wholesaler purchase price	-	-	-	1200.00
4.	Marketing cost incurred by Village wholesaler	-	-	-	100.00
5.	Village wholesaler margin	-	-	-	200.00
6.	Wholesaler purchased price	-	1200.00	-	1500
7.	Marketing cost incurred by wholesaler	-	78.75	-	90.00
8.	Wholesaler margin	-	221.25	-	210.00
9.	Retailer purchased price	-	1500.00	1200.00	1800.00
10.	Marketing cost incurred by retailer	-	102.00	77.00	80.00
11.	Price paid by consumer	1200.00	1800.00	1500.00	2200.00
12.	Retailer margin	-	198.00	223.00	320.00
13.	Price spread	108.3	760.00	456.17	1068.00
14.	Producer Share in Consumer's Rupee (%)	90.97	57.78	69.59	51.45

Table 3 represents the channel wise, marketing costs and margins of different functionaries and the price spread involved in marketing of Insulin plant in consumer market. The table shows that price paid by the consumer was lowest in channel I (₹1200/plants) and the highest in channel-IV (₹2200/plants). And the price received by the producer was highest in channel-IV (₹1132/plants) and followed by channel-I (₹1091.70/plants) and lowest in channel-II (₹1040/plants) and channel-I (₹1043.83/plants). The table shows that the price spread was highest in channel-IV (₹1068/plants) as maximum number of intermediaries was

involved and thus the lowest amount of producers share in consumer rupee (51.45 per cent) was observed in this channel, *i.e.*, channel-IV. The price spread was lowest in channel-I (₹ 108.30/plants) as no intermediaries were involved, this indicated that, out of the total money paid by the consumer the producers received 90.97 per cent which shows the highest producers share in the consumer rupee among all the other channels. In channel-II and channel-III the price spread was ₹760/plants and ₹456.17 /plants, respectively. And the producer's share in the consumer's rupee was found to be 57.78 per cent in channel-II and 69.59 per cent in channel-III.

**Table 4:** Constraints perceived by medicinal plant growers regarding marketing of insulin plant

S. No.	Name of Constraints	No. of Respondents	Percentage	Rank
1	Lack of marketing knowledge	45	90	III
2	Provision of efficient market information to farmers by government	44	88	IV
3	Lack of current markets and price information	40	80	VIII
4	Provision of government schemes	43	86	V
5	Finance	48	96	II
6	Labour	49	98	I
7	Storage	42	84	VI
8	Transportation	41	82	VII
9	Mal practices	35	70	XI
10	No help through cooperative agencies	37	74	X
11	Market regulated prices	39	78	IX

The constraints faced by the different size of Nursery groups in marketing of Insulin plant. Most of the Respondents expressed that major constraint was identified that Labour and was assigned first rank followed by Finance (II), Lack of marketing knowledge (III), Provision of efficient market information to growers by government (IV), Provision of government schemes (V), Storage (VI), Transportation (VII), Lack of current markets and price information (VIII), Market regulated prices (IX), No help through cooperative agencies (X), and finally mal practices which assigned least rank *i.e.* (XIV) respectively.

#### Suggestions of medicinal plant growers

1. Integrating shade tolerant medicinal plants as lower strata species in multistate system.
2. Cultivating short cycle medicinal plants as intercrops in existing stands of tree crops.
3. Growing medicinal tree as shade providers and boundary markers.
4. Inter-planting medicinal plants with food crops.
5. To conserve the diversity and richness of medicinal plants in natural habitats across various agro-climatic zones.
6. To disseminate and strengthen the values of medicinal plants, its significance and conservation education.
7. To develop long-term institutionalized mechanism for conservation of medicinal plants, assessing their degree of threat, population status along with identifying threatened medicinal plant species and undertaking measures for their recovery.
8. To develop dialogues and sharing of experiences among different stakeholders of the medicinal plants sector who are actively involved in the conservation, cultivation and sustainable utilization of medicinal plants, and
9. To facilitate linkages between the medicinal plant conservation organizations and medicinal plant user groups.

#### Conclusion

Since there was no one to one correspondence between any two channels in the two selected markets, there was no possibility of comparing channel wise activities, cost, and margins in the two markets. Therefore, in this section we propose to compare the efficacy of the marketing system by combining all the channels together, the producers share was the highest in the channel-I in the consumer market, this was expected because there was no middle men involved. Modified marketing efficiency (MME) was the highest in this channel as compared to the other channels in the two different markets. The study is aimed at marketing of Insulin plant growers in Hyderabad district of Telangana taking to account the marketing like sales, transport, market intermediaries and marketing channels etc. To analyse the marketing cost, marketing efficiency, price spread and marketing margins. Marketing Channel: Retailer market and consumer market. Market intermediaries were higher in channel results higher price spread, marketing efficiency and producers share in consumer rupee.

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