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**Crop Outlook Reports of Andhra Pradesh**

**CHILLIES**  
**(June, 2023 to May, 2024)**



**Centre for Agriculture & Rural Development Policy Research (CARP)**

**ANGRAU, Lam, Guntur - 522 034.**

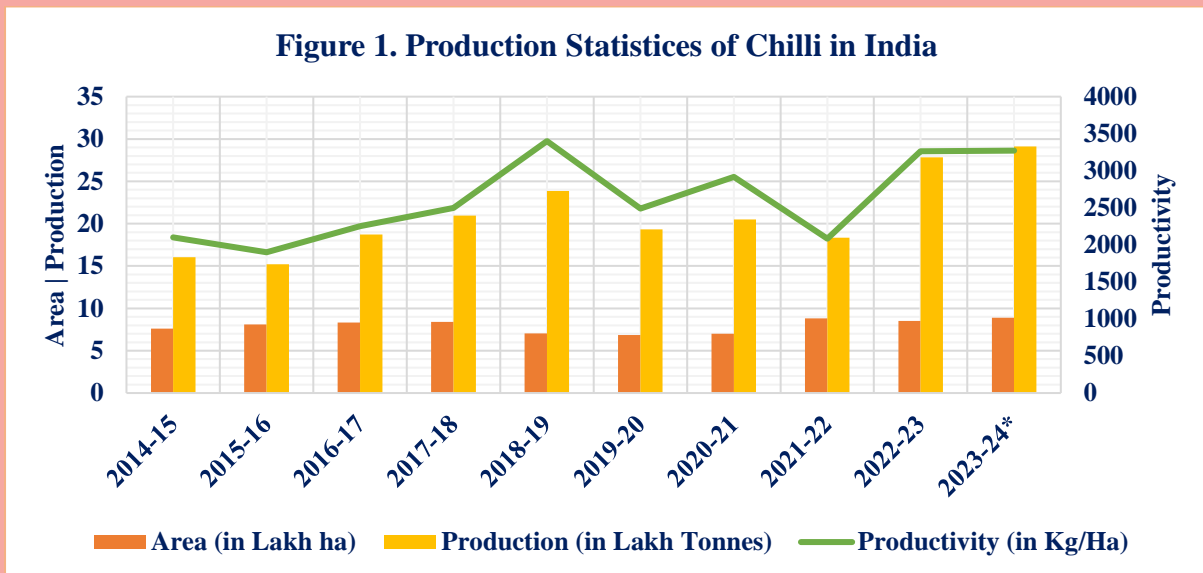
## ANGRAU - Crop Outlook Reports of Andhra Pradesh

### Chilli – June to May, 2023-24

#### *Factsheet of Chilli*

- Globally, India is the largest producer of red Chilli followed by China, Thailand, Ethiopia, and Indonesia
- India has 8.09 lakh hectares of Chilli cultivation during 2023-24, and production is estimated about 29.13 lakh tonnes, with an average productivity of 3273 kg/ha.
- Andhra Pradesh tops the list in Chilli production with 14.44 lakh tonnes (49.57%), cultivated on 2.47 lakh hectares (27.75%), followed by Telangana, Madhya Pradesh, Karnataka, and West Bengal
- India is the biggest exporter of red Chilli in the world and exports 4,02,922 metric tons of red Chilli to Asian countries like China, Sri Lanka, Malaysia, Bangladesh, Singapore, Thailand, and the UAE. India exports the three main red Chilli cultivars: Teja S17, Kashmiri, and Byadgi.
- Globally, Vietnam, the United States, China, Australia, Canada, etc. are the largest importers of red Chilli.
- Notable Chilli varieties cultivated across India include Jwala, Teja, Bhoot Jolokia, Dhani and Bhavnagri., while in Andhra Pradesh, prominent varieties are Teja, Byadgi, DD Best, 341, 273, and 334.
- In Andhra Pradesh, Y.S.R Kadapa, Ananthapuramu, Nandyal, Kurnool and Prakasam, hold 82.7 percent of the Chilli cultivation area and contribute 75.1 percent to the state's total production.
- Cultivation of Chilli in Andhra Pradesh costs Rs. 3,21,250.31 per hectare. The gross margin and net returns were estimated about Rs. 2,07,908 per hectare and Rs. 1,16,710 per hectare, respectively.
- AMIC, ANGRAU expects the price range of 13,500 – 17,000 Rs./qtl for the normal Chilli variety and 16,500-19,500 Rs./qtl for the special Chilli variety for coming Kharif marketing season.

Chilli is an important spice used all over the world in various forms. Indian Chilli have been dominating the international Chilli market. India is the world's largest producer, consumer, and exporter of Chilli. India leads in Chilli production, followed by China, Thailand, Ethiopia, and Indonesia. Indian Chilli is considered world-famous for its two important commercial qualities: colour and pungency levels. Chilli alone contributes 42% of the total spice export quantity of the country and is predominantly exported to Asian countries like China, Sri Lanka, Malaysia, Bangladesh, Singapore, Thailand, and the UAE.



Source: Spices Board of India, \*2<sup>nd</sup> Advance Estimates, 2023-24

India had 8.09 lakh hectares of Chilli cultivation during 2023-24, with an estimated production of about 29.13 lakh tonnes and an average productivity of 3273 kg/ha. Among the states, Andhra Pradesh tops the list in Chilli production with 14.44 lakh tonnes (49.57%), cultivated on 2.47 lakh hectares (27.75%) with a productivity of 5846 kg/ha, followed by Telangana, Madhya Pradesh, Karnataka, and West Bengal (Table 1). Major Chilli grown in India are Jwala, Teja, Bhoot Jolokia, Dhani and Bhavnagri.

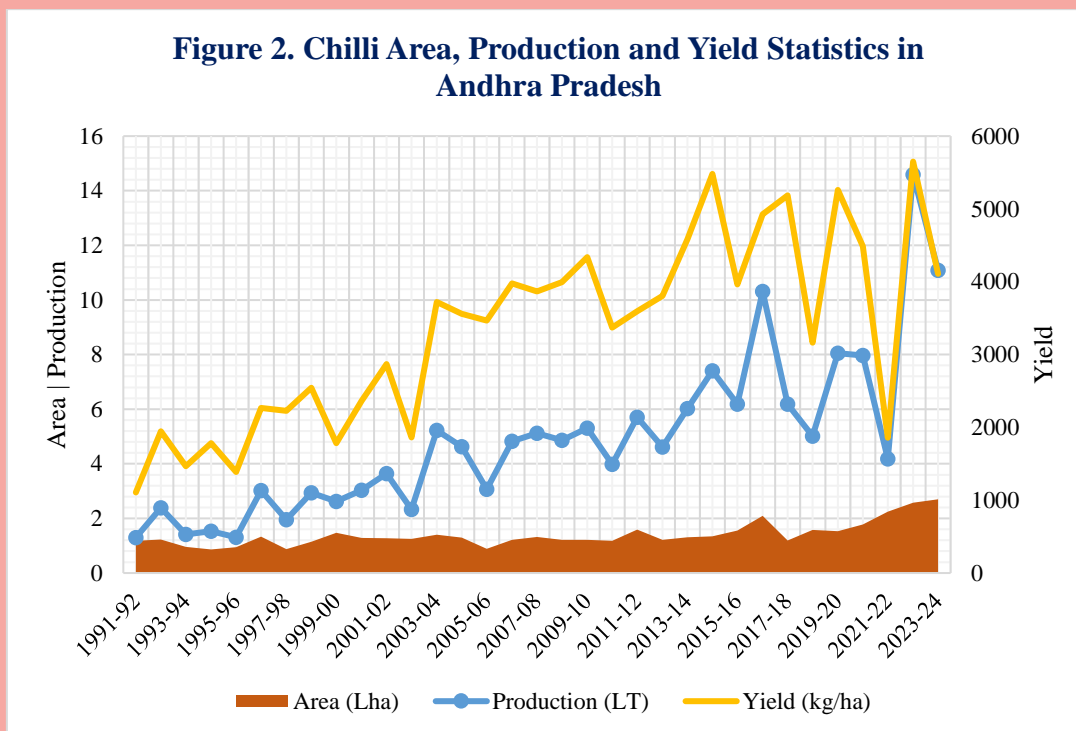
Guntur Chilli yard being the largest Chilli market in Asia influences the domestic and international prices of Chilli. The Krishna region of Andhra Pradesh alone accounts for 62.8% of the state's total Chilli production and 31.4% of India's total Chilli production (des.ap.gov.in). Worldwide, there are more than 400 different varieties of Chilli. In Andhra Pradesh, the major Chilli-growing districts include Guntur, Prakasam, Kurnool, and Krishna. Premium varieties such as Teja, Byadgi, DD Best, 341, 273, and 334 are highly preferred by exporters.

**Table 1. Important Chilli Growing States in India during 2023-24**

State	Area (lakh ha)	Production (Lakh tonnes)	Productivity (Kg/ha)
Andhra Pradesh	2.47	14.44	5846
Telangana	1.55	7.15	4613
Madhya Pradesh	1.14	2.78	2439
Karnataka	1.34	1.81	1351
Orissa	0.74	0.89	1203
Others	1.66	2.06	1241
<b>India</b>	<b>8.9</b>	<b>29.13</b>	<b>3273</b>

Source: 2<sup>nd</sup> AE 2023-24, Spices Board of India

Over the last three decades, the Chilli cultivation area in Andhra Pradesh increased by 128.81 percent, with a Compound Annual Growth Rate (CAGR) of 2.14% (Figure 2), and production increased by 753 % (CAGR of 5.81%). The annual average productivity increased with a CAGR of 3.58%.



The major Chilli growing districts in Andhra Pradesh, namely Y.S.R Kadapa, Ananthapuramu, Nandyal, Kurnool and Prakasam, hold 82.7 percent of the cultivation area and contribute 75.1 percent to the state's total Chilli production (Table 2). However, Bapatla (2412 kg/ha) ranks first in productivity, followed by Palnadu (1804 kg/ha) and Kurnool (1517 kg/ha). The average productivity of the state during 2022–23 was 1421 kg/ha.

**Table 2. Inter-District Comparison of Chilli production in Andhra Pradesh (2022-23)**

District	Area ('000 hectares)			Rank	Production ('000 tonnes)			Rank	Yield (Kg/ha)
	Kharif	Rabi	Total		Kharif	Rabi	Total		
Palnadu	58	1	59	1	351	6	357	1	6090
Kurnool	51	2	53	2	258	6	264	2	5058
Prakasam	28	7	35	3	98	30	128	7	3733
Ananthapuram	28	N	28	4	128	1	129	6	4550
Guntur	17	2	19	5	142	17	159	3	8354
N.T.R	18	N	18	6	133	N	133	5	7251
Bapatla	11	6	17	7	83	56	139	4	8143
Other	22	7	29		120	30	150		
<b>Andhra Pradesh</b>	<b>233</b>	<b>25</b>	<b>258</b>		<b>1313</b>	<b>146</b>	<b>1459</b>		<b>5650</b>

Source: Andhra Pradesh Agricultural statistics at a glance, 2022-23.

The balance sheet in Table 3 explains that the demand for Chilli in 2022-23 was projected at 13.38 million tonnes, with doubled exports of 4.13 million tonnes. The total supply was 16.54 million tonnes, and the domestic consumption of Chilli was 4.75 million tonnes in 2022-23.

**Table 3. Balance sheet of Chilli (million tonnes)**

Particulars	2021-22 (Estimated)	2022-23 (Forecast)
<i>Supply</i>		
Opening Stocks	1.04	1.88
Production	13.84	14.66
Imports	0.0	0.0
<b>Total Supply</b>	<b>14.88</b>	<b>16.54</b>
<i>Demand</i>		
Export	4.5	8.63
Domestic Consumption	8.5	4.75
<b>Total Demand</b>	<b>13.0</b>	<b>13.38</b>
Ending Stocks	1.88	3.16

Source: [www.agriwatch.com](http://www.agriwatch.com)

**Table 4. Cost-return structure of Chilli in Andhra Pradesh 2023-24 (Rs. /ha)**

S.No.	Particulars	Cost (Rs.)
1	Labour costs (Rs/ha)	1,00,109.17 (33.85%)
2	Material costs (Rs/ha)	1,21,323.93 (41.03%)
3	Variable costs (Rs/ha)	2,30,052.44 (77.79%)
4	Fixed costs (Rs/ha)	65,665.30 (22.21%)
5	<b>Total cost (Rs/ha)</b>	<b>2,95,717.74 (100%)</b>
6	Main yield (qtl/ha)	20.48
7	Price (Rs./qtl)	15,984.00
8	<b>Gross returns (Rs/ha)</b>	<b>3,27,352.32</b>
9	Net returns (Rs/ha)	31,634.58
10	Gross Margin (Rs/ha)	97,299.88
11	Return on rupee BCR	1.11
12	Return on VC	1.42
13	COP [C2] (Rs./qtl)	14,439.34

Source: Survey Data, BCR-Benefit Cost Ratio, VC – Variable Costs

The cost-return structure of Chilli in Andhra Pradesh for the year 2023–24 is presented in Table 4. Cultivation of Chilli costs Rs. 2,95,717.74 per hectare, among which labor costs have a lion share of 33.85 percent of the total cost. In total, the working capital share is 77.79 percent, and the fixed capital share is 22.21 percent. The cost of production for Chilli was Rs. 14,439.34 per quintal. Gross margin refers to returns over variable costs, which pertain to owner farmers, while net returns refer to returns over total costs, which pertain to tenant farmers. The gross margin and net returns were Rs. 97,299.88 per hectare

and Rs. 31,634.58 per hectare, respectively. The return on rupee investment was 1.11, which concerns tenant farmers, and the return on variable costs was 1.42, which mostly relates to owner farmers.

**Chilli Prices and Production Outlook:**

Percent deviations from yearly average prices were calculated for Chilli for the year 2023–24 using monthly modal prices from Guntur AMCs of Andhra Pradesh (Table 5). On average 4.4 lakh qtls of Chilli traded in Guntur market yard every month. During the market year 2023-24, highest arrivals reported in the year February and March. The yearly average prices of Chilli normal varieties are 18,610 Rs./qtl and for special varieties is 20,176 Rs./qtl. The higher prices are reported during June to December (Figure 3).

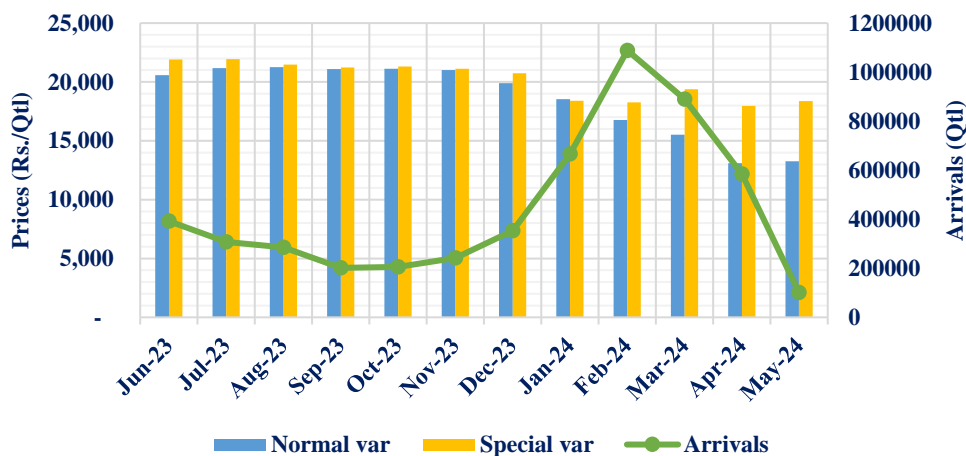
**Table 5. Seasonal Variations of Chilli arrivals and prices in major markets of A.P.**

Months	Arrivals		Price			
			Normal Var		Special Var	
	Quantal	% deviation	Rs. /Qtl	% deviation	Rs. /Qtl	% deviation
Jun-23	392838	88.65	20,571	110.54	21,921	108.65
Jul-23	307603	69.41	21,167	113.74	21,944	108.76
Aug-23	284650	64.23	21,250	114.19	21,470	106.41
Sep-23	201507	45.47	21,094	113.35	21,233	105.24
Oct-23	205936	46.47	21,132	113.55	21,300	105.57
Nov-23	242839	54.80	21,020	112.95	21,120	104.68
Dec-23	352788	79.61	19,910	106.99	20,745	102.82
Jan-24	666313	150.36	18,525	99.54	18,394	91.17
Feb-24	1088789	245.70	16,762	90.07	18,264	90.52
Mar-24	889781	200.79	15,528	83.44	19,389	96.10
Apr-24	584139	131.82	13,100	70.39	17,967	89.05
May-24	100560	22.69	13,262	71.26	18,367	91.03
<b>Average</b>	<b>443145</b>	<b>100.00</b>	<b>18,610</b>	<b>100.00</b>	<b>20,176</b>	<b>100.00</b>

*Source: Data obtained from Guntur AMC*

Descriptive statistics depicts normal deviations (SD- 5.7%) in monthly arrivals of Chilli and higher deviations for prices of normal varieties (16.7%). The prices of special varieties of Chilli showed comparatively less variation (7.8%) from an annual average price.5

**Figure 3. Arrivals & Prices of Dry Chilli at Guntur AMC in 2023-24**



Based on data from the Directorate of Economics and Statistics, Andhra Pradesh (DESAP), the time series analysis shows that the area for Chilli cultivation is expected to increase to 2.1 lakh hectares during the kharif season and 0.25 lakh hectares during the rabi season of 2024-25. Under normal conditions, the estimated annual production is 9.68 lakh tonnes in Andhra Pradesh.

Under these circumstances, the Agricultural Market Intelligence Centre, ANGRAU, expects the price range of Rs. 13,500 – 17,000 per quintal for the normal variety and Rs. 16,500-19,500 per quintal for the special variety of Chilli during the Kharif marketing / harvest season of 2024-25.

*Note: The predicted / forecast values given in the report were estimated using historical data analyzed by different econometric models with the assumption of prevalence of normal weather and market conditions.*

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