
Evaluating the marketing trends of Jaggery products in Anakapalli District of Andhra Pradesh

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Abstract:

This research explores the jaggery production and market trends in Andhra Pradesh, focusing on the Anakapalli jaggery market from 2015 to 2025. Jaggery is rich in nutrients, including vitamins, proteins, and essential minerals such as copper and iron, and it also aids in blood purification, supports liver function, and promotes healthy blood. Despite these advantages, there has been a significant increase in the demand for organic and artisanal jaggery. However, this study analyzed trends of the quantity and value of jaggery arrivals in Anakapalli jaggery market. The production trends indicate a persistent decline in jaggery products, even with advancements in production technology. Moreover, the research found that the lack of available labor and the high costs of production are the main factors contributing to the ongoing decrease in jaggery arrivals. Furthermore, the research has observed that jaggery prices maintain a consistent stability with little fluctuations. The conclusions drawn in this paper offer valuable insights for stakeholders in the jaggery industry regarding upcoming trends in production and market dynamics.

Key words: Jaggery, quantity, Value, fluctuations, prices, marketing, Trends etc.,

Introduction:

India produces jaggery is more than 70% of the world's total output. In 2022, the market size was INR 55.6 billion. Anakapalli is the second largest jaggery market of the country, a decade ago. Now the Production patterns in Anakapalli showed a consistent drop in jaggery output despite rising production methods and ideal weather for growing sugarcane. The study evaluates the jaggery market trends of Anakapalli's from the year 2015 to 2025, According to the paper's conclusion, stakeholders in the jaggery business can benefit greatly from insights into future developments, including possible growth areas and obstacles.

Due to growing health consciousness and a desire for natural sweeteners over processed sugars, consumer demand is moving away from organic and artisanal jaggery. Different distribution networks are shown by market structure research, with both contemporary retail channels and conventional local markets playing important roles. The stability and growth of markets are shown to be influenced by economic factors, such as government policies and subsidies. Small-scale producers dominate the

market, but they are coming up against competition from larger companies investing in quality and branding.

Sugarcane juice is continuously heated in conventional plants to produce jaggery. The performance of these plants has been compared based on a number of performance characteristics. They were created by local artisans without any design considerations, which results in high bagasse consumption and low thermal efficacy. The modified plant exhibits better rates of heat application, water evaporation, jaggery production, and thermal efficacy. However, compared to traditional plants, the rates of bagasse consumption, heat generation, heat loss, exhaust gas temperature, and draft generation are shown to be lower (Rakesh Kumar, Mahesh Kumar, 2021). Compared to the total output handled, Aggregate turnover is more inconsistent. The pricing has a greater impact on total turnover. The Agricultural Market Committee's (AMC) financial performance is both favorable and extremely variable, despite its good physical

efficiency. Prices and jaggery arrivals at AMC showed a positive trend (Imandi Ramarao, 2016).

A natural, traditional sweetener prepared by concentrating sugarcane juice, gur (jaggery) is known globally under various regional names, Anubha (2021). Protein, vitamins, and minerals including iron and copper are among its ingredients. It can be consumed for blood purification, liver function, and blood health maintenance because it is also utilized as an energy meal with therapeutic benefits. These days, producers make organic jaggery, which is devoid of chemicals like alum, citric acid, sodium bicarbonate, sulfur dioxide, and so forth. Known as "medicinal sugar," jaggery is utilized in pharmaceutical compositions (parthhilarapara, nithinthakarae-2020).

The quantity and quality of jaggery depends on sugar production, but today sugar cane production has been facing various problems such as declining due to rising production costs, increasing labor cost, and price fluctuations. Popular jaggery products

Objectives:

1. Analyze marketing trends of Jaggery product in terms of quantity and value in Anakapalli district of Andhra Pradesh.

Methodology:

Secondary data was gathered from Gandhi Market Anakapalli's marketing manager, as well as from published and unpublished research journals and in-person interviews with sugarcane and jaggery traders. The annual reports of the Agricultural Produce Market Committee (APMC), Anakapalle, provided the information on the monthly arrivals, prices that prevailed for the cane jaggery, and the

Analytical Tools:

Mean, Standard deviation, covariation and Compound growth rates were used to measure the variants occurred in the jaggery production in terms of value and Quantity.

include the closure of multiple jaggery production units and a drastic drop in the number of farmers producing jaggery in Anakapalli region. Many growers of sugarcane have been forced to switch to other commercial crops due to losses, decrease land, under-cultivation, cooperative mill closures, and low returns. About 40 lakhs jiggery lumps, each weighing 10 to 12 kg, were shipped to the Anakapalli Jaggery market annually. Ten years ago (2012-13), jaggery arrivals were Rs.152.1 crores and a sharp declined to 39.29 crore in 2024-2025. (AgriInsite.com: India's times April 28, 2025.) Additionally, jaggery's export competitiveness needs to be raised. Significant obstacles included inadequate pricing distribution in jaggery marketing and a lack of infrastructure for jaggery production., the volume of Anakapalli, jaggery market is gradually shrinking as a result of decreased production, reduction in the area used for sugar cane farming, and a drop in demand for Anakapalle jaggery.

2. To examine the trends in market prices of jaggery product in the study area.
3. To identify the causes for declining jaggery production and provide suitable suggestions to improve product.

yearly turnover in terms of quantity and value of the regulated market. The study's objectives were evaluated using a two-stage sampling technique. Anakapalli district's main agricultural commercial product, cane jaggery, was chosen purposefully in the first stage. In the second stage, the leading market, Anakapalle Gandhi Jaggery market, was chosen based on the size and type of market arrivals

Assessing the Performance of the Regulated Market of Anakapalli in respect of Jaggery in quantity and value terms

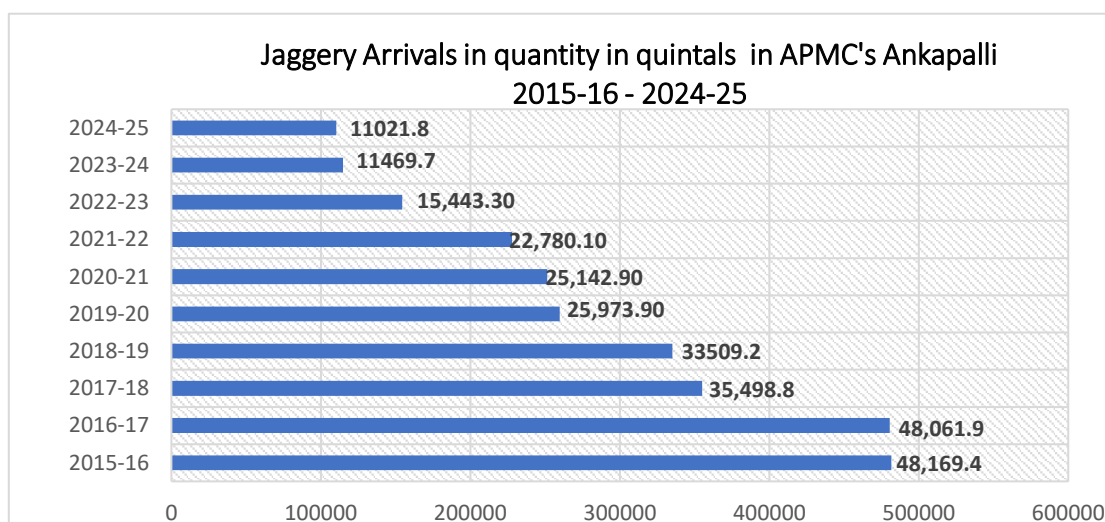
Table 1: Year wise arrivals of Anakapalli NTR Jaggery market (2014-15 - 2023-24)

Year	Jaggery Arrivals in qty. (in Tonns)
2015-16	48,169.4
2016-17	48,061.9
2017-18	35,498.8
2018-19	33,509.2

2019-20	25,973.9
2020-21	25,142.9
2021-22	22,780.1
2022-23	15,443.3
2023-24	11,469.7
2024-25	11,021.8
Total	277,071

Source: APMC's Anakapalli

Figure 1



The data in the table 1, shows arrivals of jaggery during period from 2015-16 to 2024-25. The arrivals fluctuate significantly across the years, without a smooth upward or downward trend. There are phases of high arrivals (2015-16, 2016-17) followed by sharp declines and then moderate recoveries. Moreover, between 2016-17 and 2021-22, arrivals almost halved. The chart highlights a cyclical and highly volatile trend in jaggery arrivals over a decade, with early highs (2015–17), a prolonged

decline (2017–22), a record low (2022-23), and a strong revival in the most recent years (2023–25).

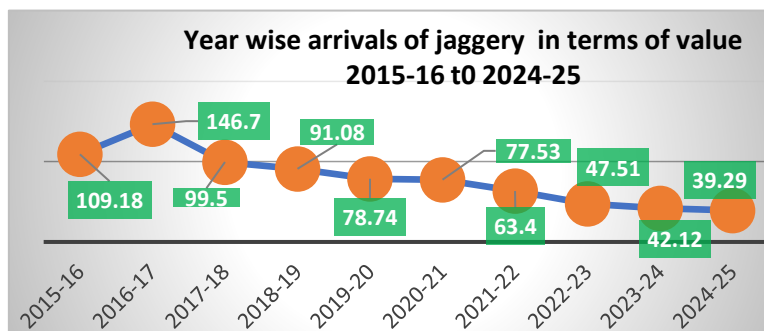
The figure 1 exhibits that the overall movement is a declining trend, with an early peak in 2016-17, followed by a steady downward slope year after year. Jaggery arrivals have fallen drastically from about 48,000 tonnes (2015-16) to just 11,000 tonnes (2024-25), reflecting 4.3 times decline in 10 years. This highlights serious structural issues in jaggery production and marketing.

Table 2: Year wise arrivals of jagger of Anakapalli regulated market (2015-15 -2023-24)

Year	Jaggery in value (In crores)
2015-16	109.18
2016-17	146.70
2017-18	99.56
2018-19	91.08
2019-20	78.74
2020-21	77.53
2021-22	63.40
2022-23	47.51
2023-24	42.12
2024-25	39.29
total	795.11

Source: APMC's Anakapalli

Figure:2



The data in the figure 2, and table 2 highlights a classic rise-and-fall pattern, an initial surge followed by a prolonged decline. The peak in 2016-17 (146.7 crores) represents the highest point of jaggery arrivals in terms of value, but from then onwards,

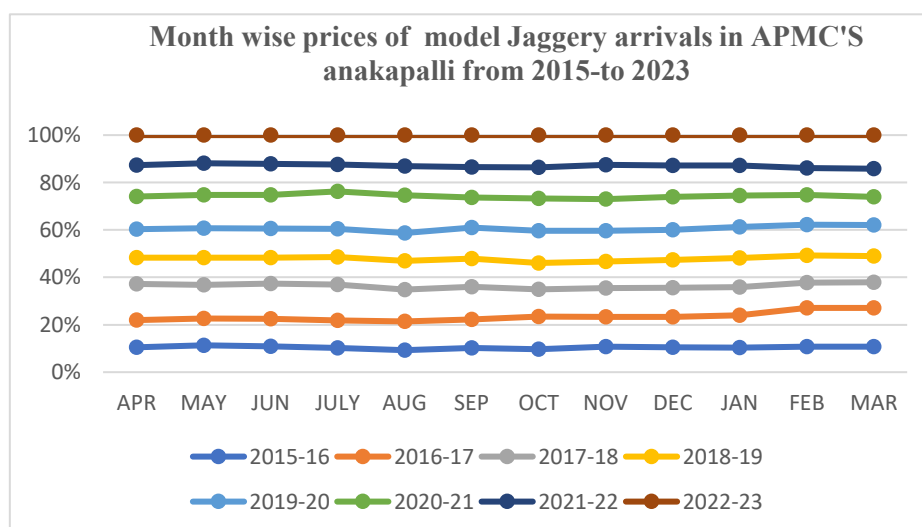
arrivals steadily declined, reaching a low of 39.29 crores in 2024-25. This consistent reduction in jaggery arrivals needs to suggest structural challenges in production, marketing, or demand for jaggery

Table 3: Month wise Price of jaggery arrivals of Anakapalli regulated during the period from 2015-16 to 2022-23 (in quintals)

YEAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
2015-16	2600	2915	2830	2644	2425	2655	2615	2655	2575	2474	2481	2594
2016-17	2848	2922	3017	3020	3166	3104	3735	3130	3121	3210	3798	3909
2017-18	3806	3632	3839	3922	3510	3550	3125	3010	3002	2834	2475	2600
2018-19	2740	2935	2845	3012	3160	3080	3030	2763	2850	2920	2650	2640
2019-20	2990	3200	3190	3055	3070	3370	3700	3225	3100	3100	3000	3150
2020-21	3400	3600	3690	4100	4150	3300	3700	3300	3416	3150	2900	2860
2021-22	3300	3450	3400	2950	3235	3300	3550	3600	3200	3000	2650	2845
2022-23	3140	3050	3150	3200	3400	3500	3690	3090	3140	3050	3200	3400

Source: APMC's Anakapalli

Figure 3:



The information presented in Table 3 and figure 3 summaries the monthly average prices of model jaggery during the period from 2015-16 to 2022-23 (in quintals). As shown in the table The Prices of the Jaggery product declines during the peak arrival months (November to February) when supply is abundant. For instance, during 2018-19, the price fell to ₹ 2650 in February, compared to ₹ 3,012 in July. On the other hand, prices rise in the months with low supply (April to September), with noticeable price peaks often seen between June and September in most years. The years 2015-16 and 2016-17 experienced relatively stable prices, showing minimal fluctuations throughout the months (ranging from ₹2,600 to ₹3,100). In the

years 2018-19 and 2019-20, there was increased volatility within the year, indicating a heightened response to production and market disturbances. After 2020-21, prices consistently remained higher, surpassing ₹3,100-3,500 during many months, indicating a significant transition towards elevated average prices. there were notable mid-year price fluctuations, likely due to climatic changes or differences in sugarcane production.

The data shows that the prices of jaggery in Anakapalli exhibit significant seasonality, corresponding to the harvesting cycle of sugarcane. Although there are minor fluctuations in the short term, the overall trajectory is clearly upward, suggesting an increase in demand and market worth.

Table 4: Year wise Average prices of model Jaggery in Anakapalli regulated market (2015-16 to 2024-25)

Year	Annual Average price
2015-16	2622
2016-17	3248
2017-18	3275
2018-19	2885
2019-20	3179
2021-22	3464
2022-23	3207
2023-24	3251
2024-25	3762
Total	28,290

Figure 4:

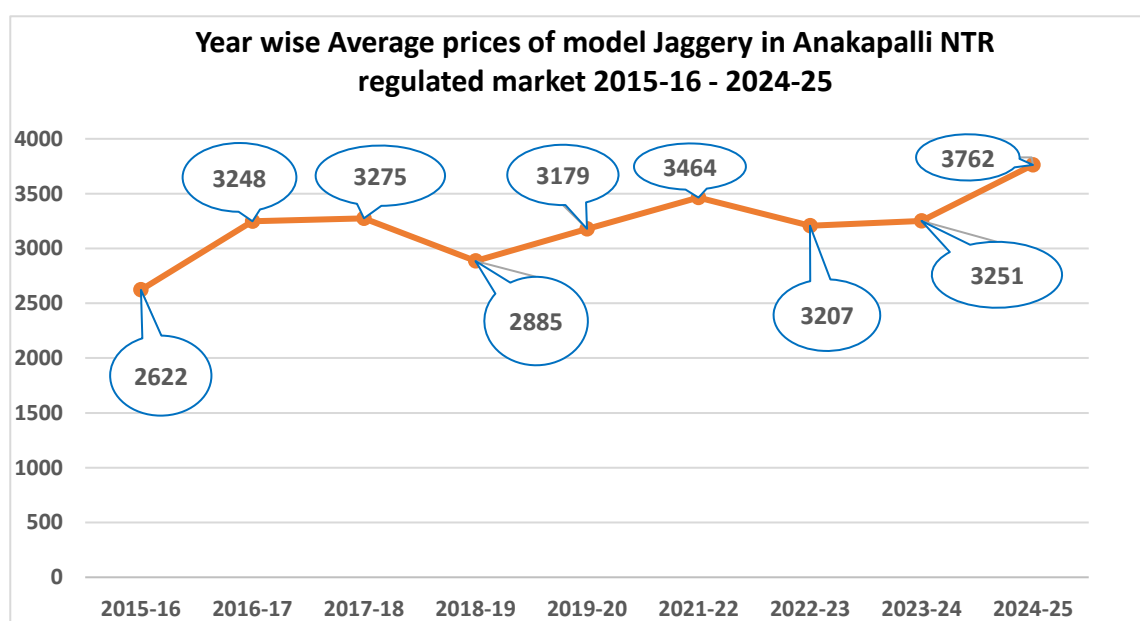


Table 4 and figure 4 s exhibited the average prices of jaggery in Ankapalli market during the study

period, the perusal of table indicates the moderate growth rate with fluctuations. Prices increased from Rs.2622 to Rs. Annual mean prices are fluctuating

than the variation in the prices among the months.
Notable changes were occurred during 2024-25

(3762) jumped by 150 percent.

In this section presents the findings to address the objectives of the research paper.

Results and Discussion:

Table 5: Assessment of the Performance of Anakapalle Regulated Market in terms of quantity

Particulars	Jaggery arrivals (in tons)
Total	277,071
Mean	27,707.1
S.D.	12,400.6
C.G. R	-0.16.3
C.V.	44.75%

Physical parameters like total quantity of the jagger were assessed and depicts in Table 5. The examination of table shows that the average quantity transacted for ten years was 27,707.1 Tonnes, but the trend was at decreasing. Compound Growth Rate (CGR) for total quantity of arrivals in market is

declining (-0.16.3%) over a period. Further, Total arrivals have significant fluctuations with 44.75% Coefficient of Variation (C.V). In otherwards, Total Quantity of the jaggery is differing from the mean total quantity of 12,400.6 tonnes by 44.75%. It indicates that aggregate Turn Over in quantity is more volatile than value terms.

Table 6: Estimation of the Performance of Anakapalle Regulated Market in terms of Value

Particulars	Jaggery in value (In crores)
Total	795.11
Mean	79.51
S.D.	33.72
C.G. R	-11.8%
C.V.	42.41%

Physical parameters like total turn- over in terms of value were assessed and depicted in Table 6. The examination of table reveals that the aggregate turn-over for ten years was 79.51. Compound Growth Rate (CGR) for Total Turn-over of the jaggery

product was -11.8%, which indicates a negative growth rate, Further Total turn-over have more volatilities with 42.41% (in value) Coefficient of Variation (C.V), In otherwards, Total Turn-over is differing from mean Total Turn-over of 79.51 Crores by 42.41%.

“The study indicates that Total Turn Over of the

jaggery product (in value) is little instable than the total quantity handled.”

Table 7: Computation of the Price fluctuations of Jaggery Market (APMC's), Anakapalli

Particulars	Jaggery prices (In Rs.)
Total	28,290
Mean	3143.33
S.D.	246.68
C.G. R	2.72
C.V.	7.85

The statistical calculation of jaggery prices Presented in the table 7, which reveals a stable and gradually increasing trend. The average price of jaggery during the study period (Rs.3143.33) suggests that, on average, jaggery prices drifted around 3100 and 3200. The standard deviation of 246.68 indicates a relatively constant trend with minimal fluctuations. with regard to the coefficient of variation, (7.85) reflects a high level of price stability. This analysis demonstrates that jaggery

Causes for declining Jaggery Sugar cane production

1. Non- availability of labor higher instability in area.
2. Non – remunerative price.
3. Closure of local sugar factories
4. Delayed payment of sugar cane sold quantity to farmer by the running factories.
5. High cost of cultivation
6. Heavy incidence of pest and diseases.
7. Main agricultural area (sowing area) under rain fed
8. Existing Sarada river also rain fed.
9. Bore Well also not sufficiently available
10. Increasing sugar cane production in our Neighboring states with low cost
11. Farmers shifting to alternate crops.
12. Market or price fluctuations reducing supply

Suggestions to improve Jaggery product

1. Convergence of sort out labor from NREGS
2. Jaggery producers and traders shall be focusing more value-added products like consume friendly sizes
3. The Market Committee will organize a customer awareness campaign highlighting the nutritional and health benefits of Jaggery, using diverse social media channels.
4. Priority has given NREGS works to sugar cane small scale farmers
5. The Market committee signing with MoU with online market channels like Flipkart, Amazan, Big basket.,
6. Facilitate digital payment system as soon as unloading the Jaggery product.

prices remained relatively stable over the ten-year period, providing a expectable market outlook. The Compound Annual Growth Rate (CAGR) of 2.72 implies a moderate long-term upward trend, despite the occurrence of short-term fluctuations.

The results indicate that jaggery prices in Anakapalli shows a ***consistent stability with minimal fluctuations***, providing a dependable revenue source for producers while keeping it accessible for consumers.

7. Provide more modern sugar cane cutting tools on subsidy and machines for sort out the labor problem.
8. Provide Polavaram water by canals as early as possible.
9. A mini dam constructed on Sarada River at feasible place.
10. Encourage farmers to use natural manures.
11. Policy interventions, subsidies, or better prices.
12. Moreover, Change in market dynamics, according to the global market conditions.

Conclusion:

The study on marketing trends of jaggery products in Anakapalli district shows a gradual decline in jaggery arrivals influenced by labour scarcity, increasing production costs, price fluctuations. Moreover, the study found that total turnover in quantity somewhat more fluctuates than value terms. In contrary, the study observed that consistent stability in Jaggery prices and, also noticed mean yearly prices are inconsistency than the variation in the prices among the months. Despite increased consumer health consciousness, effective management of regulated market, expanding market channels, product innovation, and supportive government policies the jaggery market in Anakapalli, have witnessed a negative transformation. The trends showed a discouraging situation of the future for the industry. So, it should essential to expansion in both local and global markets for protects the future of sugar farmers, jaggery producers and traders. Promoting jaggery as a healthy and eco-friendly and focusing on more value-added methods. This conclusion summarizes the important trends and future outlook for the jaggery market in Andhra Pradesh, providing a

useful framework of the current and predicted improvements.

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