

A Study of Production Management of Sugar Industries in India (With Special Reference to Pratappur Block of Surajpur District)

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Abstract - India currently ranks as the world's fourth-largest economy and is experiencing rapid growth, driven by domestic reforms and a strategic focus on strengthening its global position. It remains the fastest-growing major economy, with a projected growth rate of 6.5%. Here sugar industries of India play a vital role in boosting up the economy of India. Most of the sugar industries of India are managed by cooperative sector. It helps Indian economy in anonymous ways like it financially supports the Harvesters of sugarcane, to the people who are engaged with the factories for producing sugar and its by-products, to the officials of the industries and many others. Effective management of the production may help in the cost reduction, as a result of which there will profit maximization in these industries. Similarly Maa Mahamaya Cooperative Sugar Industry of Kerta village in Surajpur district of Chhattisgarh state contributes in the economic development of India.

Key words: Industry, Cooperative Sector, Production Management, Economy, Development, Cost Reduction, Sugarcane.

1. INTRODUCTION

Sugar is one of the most important ingredients used globally for the production of food and certain beverages. It has played vital role among the whole world in order to trade globally and for boosting up the economy of the world and the country as well. In today's era the modern sugar industry is completely reliable on large scale factories for the conversion process of raw material like sugarcane and sugar beet into refined sugar.

The large scale industry not only does the process of production but they also contribute towards development of local economy and generate employment opportunities for the rural area. Because sugar industry is an agro-based industry thus it plays a significant role for development of link between farmers and market. They often bother agricultural practices in the nearby region and have a huge impact on the socio economic development of the local community.

In spite of so many favorable elements the industry also faces so many challenges as well. It has to overcome so many criticism regarding environmental issues, high water

consumption, various kinds of pollution, and generation of wastewater.

Moving ahead lets discuss about the leading producer of sugar globally. Countries such as Brazil, India, and China are ranking as the largest producers of sugar, they are in the leading position due to various factors like sugarcane plantations and well equipped infrastructure of agriculture. According to the records of 2024, the top 10 leading producers countries of the sugar are-

COUNTRY	PRODUCTION IN METRIC TONS	WORLD WIDE CONTRIBUTION
1. Brazil	43 million metric tons	23%
2. India	35.5 million metric tons	19%
3. European Union	15.58 million metric tons	8%
4. China	11 million metric tons	6%
5. Thailand	10.24 million metric tons	5%
6. USA	8.42 million metric tons	5%
7. Pakistan	6.86 million metric tons	4%
8. Russia	6.5 million metric tons	3%
9. Mexico	5.4 million metric tons	3%
10. Australia	4 million metric tons	2%

Table 1- Leading producer's countries of sugar

Origin and Early Development of Sugar

❖ Ancient Roots

By looking into the archaeological evidence it is considered that sugarcane and sugar production have been originated in India.

❖ Traditional

Methods

It has been mentioned in ancient Indian text that traditional sugar production was having the process of crushing the sugarcane followed by juice extraction , boiling the juice and lastly converting the boiled juice into crystals.

❖ Spread of Knowledge

During the period of Arabic conquests, the idea of sugar production with no time was seen scattering among the other parts of the worlds. After that it was seen passing it on to certain other experts.

❖ Modernization

After 1932 it was seen emergence of modern sugar processing industry that followed Sugar Industry Production Act, the facilitated all the needed support and security to the industry.

Production Management

The term production management is the process where inputs are transformed into tangible goods orderly. This term is often seen with organizations associated with manufacturing like, textile mills, automobiles manufacturing units, household appliances producing units and many more. One of this is sugar manufacturing unit. The first and foremost objective of production management is to optimum utilize of resources without any of the wastage so that we may get the desired object. There are many functions and elements of production management where one element is linked to the other element.

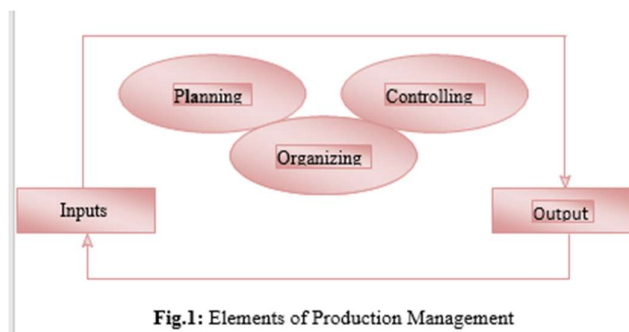


Fig.1: Elements of Production Management

2. Research Area

Kerta, Surajpur

Kerta a small village is located in Pratappur subdivision of Surajpur District of Chhattisgarh state, India. As per the census report of 2011, Kerta was having the population of 2,318 approx, out of which 1,209 were male and 1,119 were females. According to the records of 2009, Kerta is acknowledged as a Gram Panchayat. It has its location 17 km from the sub-district headquarters at Pratappur (Tehsil Office) and 25 km from the district headquarters at Ambikapur.

Maa Mahamaya Cooperative Sugar Industry, Ambikapur, Village- Kerta.

Maa Mahamaya Sahkari Shakkar Karkhana Maryadit, Ambikapur, is situated in Village Kerta, Tehsil Pratappur,

District Surajpur, Chhattisgarh (PIN: 497223). The factory is situated along the Ambikapur–Pratappur route via Kalyanpur Main Road. The closest railway station from the industry is in Ambikapur, which is at the distance of 30 km, Meanwhile the adjoining airport is in Darima, about 40 km from away from the location. The factory is connected with a paved road at a distance of 28 km from Ambikapur city.

The industry incorporates the deep values which further facilitates ethical conduct and fruitful operation. It was established not only to produce and manufacture sugarcane related products or earn profit but it also aims for the holistic development of the nearby regional rural area. The industry aims to boost the economy of the rural area and surrounding regions, it also aims to support financially to the farmers of sugarcane cultivators by providing them worth of their produce which will gradually increase their standard of living. This initiative will further lead to growth of agriculture sector. So here we are deeply going to see the production management of this particular sugar industry, also we will be seeing the positive consequences of the effective production management.

3. Objectives of the study

- To analyze the current state of sugarcane production in the industry.
- To analyze the current state of sugar production and management practices in Maa Mahamaya Cooperative Sugar Industry, Ambikapur Village- Kerta.
- To identify the challenges in sugar production and management in the industry.
- To identify the opportunities in sugar production and management in the industry.

4. Hypothesis

- Sufficient production of sugarcane to fulfill the need of raw material.
- Sugar production in the factory increases every year.
- Rural population of the Kerta Village gets employment and other benefits of cooperative sector.
- Use of Modern technique of production leads to profit maximization due to cost reduction

5. Methodology

The survey method is used to collect the data from different employees of the Maa Mahamaya Cooperative Sugar Industry, Ambikapur, Village- Kerta. Structured questionnaires supported with personal interview are the main source of data. Discussions are also done with the participants those who were

willing to give their views Therefore both the primary and secondary methods are used for data collection. About 50 different occupational respondents were selected randomly. And simple percentage method is used for the data analysis as the size of the sample being collected is small.

6. Result and Analysis of Concerned Topic

Table – 2 Age Wise Distribution

S. N.	Age Group	Number of Respondent
1.	0-25	05 (10%)
2.	25-35	18 (36%)
3.	36-45	12(24%)
4.	45 Above	15 (30%)

Table – 3 Crushed Sugarcane and Sugar Production

Year	Crushed Sugarcane (In Metric Ton)	Produced sugar (In Quintal)	Recovery (In percent)
2021-22	202617.418	1,93,359	9.48%
2022-23	283595.707	2,73,250	9.70%
2023-24	266062.293	2,38,073.50	9.00%
2024-25	262814.624	2,56,575	9.93%

From the above table it is clearly visible that 2024–25 was the year in which highest amount of sugar was produced. The highest recovery was 9.93% in 2024–25, and the lowest was 9.00% in 2022–23. The sugar recovery in sugarcane varies from state to state. The average 73 Page sugar recoveries in the country is 10.25%, but the average rate of this factory is less than the national average.

Table – 4 Evaluation of Opinion of respondents in Maa Mahamaya Cooperative Sugar Industry

S. N.	Statement	Yes	No
1.	Sufficient availability of sugarcane	30	20
2.	Rural population of the areas get employment	42	08
3.	Rural population get worth of their sugarcane produce	29	21
4.	Use of modern technique of production by the industry	40	10
5.	Reduction in the cost of the sugar by use of modern technique of production	28	22
6.	Profit maximization in the industry	33	17

By the analysis of the above opinion we can easily figure out that there is sufficient availability of sugarcane for the production of sugar by Maa Mahamaya Cooperative Sugar Industry, Ambikapur, and Village- Kerta. The rural population of the area gets employment opportunities which fulfill the social need of the area. Along the with the social need the farmers of the Kerta village get worth of their sugarcane produce. Maa Mahamaya Cooperative Sugar Industry, Ambikapur, Village- Kerta uses modern methods of the production which gradually reduces the cost of sugar produced by the industry that further leads to profit maximization.

7. Conclusion

Thus, the study proves that Maa Mahamaya Cooperative Sugar Industry, Ambikapur, Village- Kerta, help to boost the economy of the regional area and also contributes in boosting the economy of the India. Along with the fulfillment of financial needs the factory also fulfills various social needs of the region. People of the area receive all the possible benefits of the cooperative sector by the help of the establishment of Maa Mahamaya Cooperative Sugar Industry, Ambikapur.

8. References

1. Ali, S.M.S. Abuthahir. (2014). "Production and operation management". Pondicherry University.
2. Deshmukh, R. V. (2015). Role of cooperative sugar mills in employment generation: A case study of Kolhapur district. Indian Journal of Agricultural Economics, 70(3), 215–223.
3. Tradelmex. (2025).Top 10 Sugar Producing Countries: Explore the Global Sugar Export Data.
4. Indian Village Direcory.Villageinfo.org. (2025). Kerta.



5. Indian Sugar Mills Association (ISMA) Financial Performance Report of Sugar Industry in India – 2023–24. New Delhi: ISMA.
<https://www.indiansugar.com>.
6. Kerta Sugar Industry Report. (2023). Factory Operations and Work Performance Statistics. Surajpur District: Internal Factory Documentation. Reference for operational data and performance evaluations of the sugar factory in Kerta village.