

AN ANALYTICAL STUDY OF PRODUCTION AND STORAGE CAPACITY OF SUGAR MILLS IN BULANDSHAHR
DISTRICT OF UTTAR PRADESH
Dr. Ashoka Kumar Tarai

AN ANALYTICAL STUDY OF PRODUCTION AND STORAGE CAPACITY OF SUGAR MILLS IN BULANDSHAHR DISTRICT OF UTTAR PRADESH

Vipul Garg
Research Scholar
R.H.G.P.G. College,
Kashipur, Uttarakhand, India.
E-mail: vpl2509@gmail.com

Mayank Jindal
Teaching Assistant,
IMS, Bundelkhand University,
Uttar Pradesh, India.
E-mail: mayankjindal.512@gmail.com

Abstract

The Indian sugar industry depends on the sugarcane produce of the farmers of India. And Maharashtra and Uttar Pradesh are the major sugar-producing states of India. Uttar Pradesh maintains is the leading state in the production of sugarcane in India. The main purposes of the study are to assess and analyze the productivity and capacity of Sugar Mills working in the Bulandshahr district of Uttar Pradesh. The Study is based on the Primary and Secondary Data which consists of Details, Production Capacity, and Storage Capacity of the Sugar Mills. This study has concluded that the total sugar production of sugar mills in the Bulandshahr district is 2570330 Quintals during the year 2020-21 this study is useful for the agriculture products policymakers, farmers, sugar suppliers, and etc.

Keywords

Sugar mill, Sugar Production, Sugar Storage, Bulandshahr District.

Reference to this paper
should be made as follows:

Received: 11.08.2021

Approved: 30.08.2021

Mayank Jindal

Vipul Garg

AN ANALYTICAL STUDY OF
PRODUCTION AND STORAGE
CAPACITY OF SUGAR MILLS IN
BULANDSHAHR DISTRICT OF UTTAR
PRADESH

Article No.51

RJPSS Apr.-Sept. 2021,

Vol. XLVI No. 2,

pp. 424-431

Online available at:

<https://anubooks.com/rjpss-2021-vol-xlvi-no-2/>

<https://doi.org/10.31995/rjpss.2021.v46i02.037>

Introduction

Sugar is a general need of the present life and it's easily available goods and we are using it in our day-to-day life. Sugar is a basic ingredient for making all or most types of sweets. Sugar is an easily available good in the present time but it was not easy to get sugar before independence and after some time of independence also. Approx 1950, sugar was the symbol of prestige but now it's a common commodity. In ancient time Indian used Gur or Khandsari as a sweet or a substitute for Sugar and they did not use sugar for making sweets but consumed it as it was. Previously crystal sugar was made in India but that was not similar to the presently available sugar crystals. Before Independence Sugar was a costly commodity and out of the budget of the common public. The main reasons were no standardized sugar production unit in India and the production units of that time were mostly operated by the British Government of India. After the Eighteen Century, Indian Sugar production units came into existence but those units were not enough to compete with the British Sugar production units. After attaining independence, the number of Indian sugar production units increased in a good manner. At that time Uttar Pradesh was the leading producer state of Sugar as well as Sugarcane. At present time Maharashtra and Uttar Pradesh both are the major producers of sugar and sugarcane in India. Maharashtra is the leading state in producing sugar in India and Uttar Pradesh is the leading state in producing sugarcane in India. Though Uttar Pradesh is the leading state in producing sugarcane the recovery of sugarcane juice from the sugarcane is around 9.94% weight of total sugarcane weight and Maharashtra is recovering 10.50% weight juice from its sugarcane. The recovery rate of sugarcane juice from the sugarcane also depends on the climate conditions of both states. As Maharashtra is facing commonly same climate each year, on the other side the climate of the state of Uttar Pradesh varies mostly after 2-3 months. As the sugarcane in Maharashtra grows in a common atmosphere the sugarcane grows well and consists of more sucrose than the sugarcane of Uttar Pradesh. The climate affects the production of sugar in a great manner. Sugar production depends on sugarcane production. In the sugar production process, sugar mills and farmers both want to process the sugarcane in mill for the process of sugar production because after cutting the sugarcane from the field of the farmer sugarcane starts the lose weight because of coming dryness in the sugarcane, and it is more important to supply the cane to the mill in the shortest time otherwise the sucrose in the sugarcane starts to dry and the dry sucrose cane or less sucrose cane will be less able to give juice from it. This situation increases the cost of the mill because the mill has to pay the farmer for the cane whether the cane gives juice or not. The farmer also faces

problems because the farmer is compelled to hold his produce till the mill asks for the cane. Every mill has its maximum intake capacity per day and the mill cannot take excess sugarcane at one time. As a result, the farmer has to wait for the supply of his sugarcane and also for the next produce.

Literature Review

Dr. Patil Dhanraj A. (2020). Constructing sustainable energy policies and assisting policymakers by means of forecasting appropriate policy measures are a significant component of policymaking, especially in the post-climate-change era. Moreover, sustainable policymaking is primarily relied on analyzing future consequences and their intricacies. Therefore, considering the complexities in India's socio-ecological and political milieu the present study was specifically conducted to provide concrete insights to policymakers for constructing sustainable policies in the renewable energy sector by exploring alternative future scenarios and specific policy implications in the area of BCS in the Indian sugar industry. This study is perhaps the earliest effort to empirically attempt to fill up the aforementioned policy gap by applying futures methodology. The study draws four concrete scenarios which provide solid starting point and orientation to the concerned stakeholders connected with BCS. Thus, bearing in mind the instantaneous and foreseeable future that is (2030) for (BCS) it is concluded that, based on the policy suggestions systemic structural changes in the sector as a whole have to be made in order to provide sustainable policy solutions to the BCS in India. (1)

Dr. Singh Ranjeet (2015). To conclude the paper, it may be said that the adoption of the above measures will undoubtedly help the selected sugar mills to improve their overall performances in the management of the working capital. The industry will be able to generate funds increasingly from internal sources, thus breaking the vicious circle of financial stringencies. It is common knowledge that the function of fixed assets is to create capacity and that of current assets to make the utilization of capacities possible. The problem of underutilization of capacities of the industry will be solved to a large extent with the improvement in the management of the working capital. Thus, the dreams of our planners to accelerate the economic growth in the country by effecting increased sugar production at reasonable costs are still possible to be translated into reality. (2)

Pathak S. K., Singh Priyanka, Singh M. M. and Sharma B. L. (2018). This study shows that despite an 18% increase in the area of high sugared early-maturing varieties in Uttar Pradesh during crushing season 2016–2017 as compared to earlier season (2015), low temperature and high humidity during the beginning of crushing season proved to be an obstacle in attaining the increase in sugar recovery.

The data also reveals that if the maximum temperature reduced 2–3 C and humidity increased by more than 5% and the minimum temperature remained the same, then it will certainly bring down the sugar recovery. The study also states that if the maximum temperature goes below 3 C during the crushing period, it will adversely impact the recovery. Average sugar recovery of season 2017–2018 was increasing trend from November last week to December second week (Table 4) because the maximum temperature was between 23 and 25 C and forenoon humidity was 87–91% (Table 3), but average recovery down from December third week to January first week (Table 4) because the maximum temperature during this period was 15–21 C and forenoon humidity was 94–96% (Table 4). The study clearly shows that weather plays a dominant role in sugar accumulation vis-a-vis sugar recovery in sugarcane. However, crop weather interaction during the onset of ripening needs to be explored in detail. The accurate forecasting of weather will help the sugar industry to commence its crushing operations when the crop is fully mature. Nevertheless, a better and clear understanding of environmental factors will enable sugar industry management to modify and improve their sugar recovery. However, besides affecting growth and sugar accumulation, the weather also exerts considerable influence on the outbreak and spread of various pests and diseases on cane crops which ultimately reduces their yield and quality. (3)

Pandey Adya Prasad (2007). The sugar industry is the second largest agro-based industry in India. Sugar factories, particularly cooperative sugar factories in Maharashtra and other states have been instrumental in building confidence among rural people and strengthening the industrial base in rural India. In the era of globalization, the sugar industry needs a more competitive edge which can be given by way of modernization, enhancing productivity, and manufacturing excellent quality sugar at competitive prices. It needs quality management at every level of activity to enhance its performance. The need of the hour is to liberalize the industry from the clutches of unprofessional people. Most of the sugar units do not have by-product utilization plants. Projects based on bagasse and molasses should be initiated. Ethanol, alcohol, and paper projects have tremendous scope for development in India. In the future, 10-15% ethanol may be allowed to be blended with petrol. Bagasse-based power generation projects installed adjacent to each sugar factory would fulfill the need for power. NABARD should provide adequate and timely refinance to these projects at concessional interest rates. New sugar units should be set up taking into consideration sugarcane availability. The research program should be undertaken in area of sugarcane cultivation, enhancing sugarcane productivity, and sugar recovery. Sugarcane prices should be fixed on basis of sugar recovery.

Attention is to be given to manufacturing quality sugar as per international standards at competitive prices.

Objectives and Research Methodology

Objectives

The main purposes of the study are to assess and analyze the actual production, maximum production capacity, and maximum storage capacity of Sugar Mills working in Bulandshahr District of Uttar Pradesh, India.

Research Methodology

This study is based on primary and secondary data. Primary data have been collected through the scheduled interviews and secondary data have been collected from many journals, websites, and legal organizations. This study is based on the Productivity and Storage Capacity of Wave Industry Pvt. Ltd., Anamika Sugar Mill Pvt. Ltd., Kisan Shahkari Sugar Mill, and Deshwal Triveni Sugar Mill of Bulandshahr District. This study was started in February 2021 and primary data was collected in June 2021. The questionnaire so prepared is divided into two parts which consist of the Name and Address of the sugar mills and the Productivity and Storage Capacity of the sugar mills.

Data Analyses

Sugar Mills in Bulandshahr District

Table 1. Name, Address, Area, and Ownership of Sugar Mills

Number	Name of the Sugar Mills	Address	Area	Ownership
1.	Wave Industries Pvt. Ltd.	Amba Enclave, Bulandshahr	Urban	Private
2.	Anamika Sugar Mill Pvt. Ltd.	Bhandauria, Agauta, Bulandshahr	Rural	Private
3.	Kisan Shahkari Sugar Mill	Jahangirabad Bulandshahr	Rural	Government
4.	Deshwal Triveni Engineering & Industries Ltd.	Barashu, Sabitgarh, Bulandshahr	Rural	Private

There are four sugar mills in the Bulandshahr district of Uttar Pradesh. The sugar mill is a major revenue generation source for the sugarcane farmers of Bulandshahr. Sugar Mills are serving the district for a very long time and play a crucial role in the welfare of the farmers of the district. One sugar mill is in the city and the other three mills are situated in various other areas of the district. If we talk about the distance of the three mills in the district, we consider that the Anamika Sugar Mill Pvt. Ltd., Agata is 21 Kilometre far away from the main city, Kisan

shahkari Sugar Mill, Jahangirabad is 28 Kilometre far away from the main city and the Deshwal Triveni Engineering & Industries Ltd., Sabitgarh Is 35 Kilometre far away from the main city. The Area of the above mills has been classified in three categories according to the distance of the Mills from the main city Bulandshahr.

The categories are as follow:

Urban – The Mill resides under the Area of the main city.

Semi-Urban – The Mill resides under 8 Kilometre distance from the main city.

Rural – The Mill resides beyond 8 Kilometre distance from the main city.

There are four mills in the Bulandshahr district of Uttar Pradesh. Before September 2017 the district had two Government-controlled mills and two Private Limited mills but after September 2017 the Wave Industries Pvt. Ltd. has purchased the Government Mill which is working in the main city. In the present context, District Bulandshahr has four sugar mills from which three mills are privately owned and only one mill is working as a completely Government controlled institution.

Table 2. Maximum and Actual Daily, Monthly, and Yearly Production Capacity of the Sugar Mills

Number	Name of the Sugar Mills	Maximum Production Capacity of Sugar Mills in TCD			Actual Production Capacity of Sugar Mills in TCD		
		Daily	Monthly	Yearly	Daily	Monthly	Yearly
1.	Wave Industries Pvt. Ltd.	3500	105000	630000	2400	72000	432000
2.	Anamika Sugar Mill Pvt. Ltd.	3500	105000	840000	3400	102000	765000
3.	Kisan Shahkari Sugar Mill	2500	47500	332500	2500	47500	332500
4.	Deshwal Triveni Engineering & Industries Ltd.	6500	195000	1365000	5400	162000	1134000
	Total	16000	452500	3167500	13700	383500	2663500

TCD – Tonnes Cane Crushed per Day

The is showing the maximum and actual production capacity of all the four sugar mills of Bulandshahr District. In this study, we notice that the production capacity of each mill depends upon the total sugarcane intake capacity of the mills. In the table, the data is showing the maximum and actual sugar intake capacity of the mills. The total actual production of each mill also depends on the sugar recovery rate of the sugarcane.

Table 3. Total Sugar Storage Capacity and The Actual Production of Sugar Mills of last few years

Number	Name of the Sugar Mills	Total Actual Storage Capacity in Quintal	Actual Production of Sugar in Quintal			
			2020-21	2019-20	2018-19	2017-18
1.	Wave Industries Pvt. Ltd.	300000	344500	283500	244000	-
2.	Anamika Sugar Mill Pvt. Ltd.	700000	695000	620000	684310	759066
3.	Kisan Shahkari Sugar Mill	370000	330830	336506	-	-
4.	Deshwal Triveni Engineering & Industries Ltd.	1400000	1200000	1000000	900000	800000
	Total	2770000	2570330	2240006	1828310	1559066

The storage capacity of any mill represents the holding power of finished goods or product within the mill. A large storage capacity helps to maintain a surplus of sugar production and it also helps to maintain the working of the mill. We are noticing that two mills showing fluctuations in the total actual production of sugar in different years. This difference in the actual production of mills depends on the total intake of sugarcane in the mills and working days in a year. In the table, we notice that Deshwal Triveni Engineering & Industries Ltd. is showing a continuous increase in sugar production each year. The Kisan Shahkari Sugar Mill is showing fluctuation in the actual production of sugar. The Anamika Sugar Mill Pvt. Ltd. is showing a decrease in the year 2018-19 compared with the year 2017-18 and a little increase after the year 2019-20 in 2020-2021. Wave Industries is also showing a continuous increase in the total actual production of sugar. Total production of sugar in district Bulandshahr is 2570330 Quintal in 2020-21 and 2240006 Quintal in 2019-20.

Conclusion and Suggestions

The main purposes of the study are to assess and analyze the productivity and capacity of Sugar Mills working in Bulandshahr District of Uttar Pradesh and

this study has concluded that total production of sugar in district Bulandshahr is 2570330 Quintal in 2020-21 and 2240006 Quintal in 2019-20. Wave Industries Pvt. Ltd. was produced 344500 Quintal sugar, Anamika Sugar Mill Pvt. Ltd. was produced 695000 Quintal, Kisan Shahkari Sugar Mill was produced 330830 Quintal sugar and Deshwal Triveni Engineering & Industries Ltd. was produced 1200000 Quintal sugar during the year 2020-21. Wave Industries Pvt. Ltd. has 300000 Quintal sugar storage capacity, Anamika Sugar Mill Pvt. Ltd. has 700000 Quintal sugar storage capacity, Kisan Shahkari Sugar Mill has 370000 Quintal sugar storage capacity, Deshwal Triveni Engineering & Industries Ltd. has 1400000 Quintal sugar storage capacity and total maximum storage capacity of all four sugar mills is 2770000 Quintal sugar. There is a need to decrease the time gap between the cutting of sugarcane and the supply of sugarcane, there is also a need to improve the sugarcane payment system of sugar mills. As the Sugarcane production of the district is increasing year after year the firm has to improve its basic production and sugar intake capacity through which the mill will be able to reduce its working period time of crushing. The sugarcane juice recovery rate will be more than the present recovery rate as the farmers will take less time to supply their sugarcane to the mill and the sucrose of the sugarcane will not dry soon. After this, the firm will take less time to produce sugar and will be able to complete its session soon and will save the operating cost-plus labor cost of the mill. This will decrease per Quintal production cost of the mill and the consumers of sugar in the district will get cheap sugar. As the production will increase, the cost will decrease and the supply of cheap sugar will give sugar mills a good profit and revenue. This will help in the payment of the farmers as soon.

References

1. Dr. Patil Dhanraj A. (2020). "From Sugar Production to Sustainable Energy Production: *Exploring Scenarios and policy Implications for Bioenergy in the Sugarbowl of India*". Eco. Env. & Cons. 26 (August Suppl. Issued), Pp. (S287-S294)
2. Dr. Singh Ranjeet (2015). "*Production and Growth of Sugar Industry in Uttar Pradesh*". International Journal of Engineering Research & Management Technology, Volume 2, Issue -1, Pp. 56-60
3. Pathak S. K., Singh Priyanka, Singh M. M. and Sharma B. L. (2018). "*Impact of Temperature and Humidity on Sugar Recovery in Uttar Pradesh*". Sugar Tech
4. Pandey Adya Prasad (2007). "*Indian Sugar Industry a strong industrial base for Rural India*". MPRA, No. 6065, Pp. 1-22