

How to Cite:

Patil, R. K., & Rajguru, S. (2022). A case study of sugarcane crushing profile of sugar factories in Solapur district. *International Journal of Health Sciences*, 6(S3), 2666–2673. <https://doi.org/10.53730/ijhs.v6nS3.6172>

A case study of sugarcane crushing profile of sugar factories in Solapur district

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Abstract---Sugarcane plays a pivotal role within the agro industrial economy of India and really within the real economy. India is that the world's second largest nation after ones Brazil in sugar production. Employment and dependency on the industry is big. Massive mass of agriculture labour area unit concerned in sugarcane cultivation, harvesting and different activities. Sugarcane is taken into account crop for the longer term thanks to its contribution to production of sugar, jaggery, khandsari and lots of by product like syrup molasses, bagasses and press mud and additionally bound renewable sources of green energy within the variety of bioethanol and many bio-based products. Production of sugar in India is from sugarcane as a result most of the sugar factories area unit placed within the states. Maharashtra state has the highest number of sugar mills followed by Uttar Pradesh. The paper aims to analysis the performance of sugar industry of solapur district. This study includes sugarcane production, sugar production, number of factories in operation, etc. The study has targeted on the sugar crushing state of affairs of solapur district in past four years and Secondary information was obtained from 'Pradeshik Sakhar Sahsanchalak Karyalay' Solapur. All the analysis is carried by excel.

Keywords---sugarcane, sugar, factories, economical analysis.

Introduction

Approximately 80% of the world's sugar is produced from sugar cane in tropical and subtropical climates. The remaining 20% comes from sugar beets, which are grown mostly in the temperate zones of the Northern Hemisphere. A total of over 120 countries produce sugar. In the 2019-20 crop year, global sugar production was approximately 166.18 million metric tons. India is the world's second largest nation after Brazil in sugar production. In 2020-21 India was produced 33.76 million metric tons sugar. Sugar industry is one of the largest agro based processing industry in India, has been instrumental in resource mobilization, employment generation, income generation, and creating social infrastructure in rural areas. In SY 2019-20 India had 460 total sugar mills in operation and they produced 271.40 Lmts of sugar. The current year production is slightly higher due to earlier start of sugarcane crushing in western region of the country. Uttar Pradesh, Maharashtra and Karnataka these are the top three sugar producer in India.

Maharashtra sugar industry is one in all the foremost known and huge scale sugar producing sectors in India. The sugar industry in the state is wide common within the co-operative sector since farmers possess a share within the sugar factories. In 2020-21 there 1,143(000ha) space was below sugarcane cultivation and tentatively in 2021-22 its 1,232(000ha). In 2019-20 Maharashtra grows 84(MT/ha) average sugarcane yield. Sugarcane is one in all the chief crops among all alternative crops produce in Maharashtra. In step with the state's sugar commissioner, state had produced 106.4 lakh tonnes of sugar in 2020-21 sugar season by crushing 1013 lakh tonnes of sugarcane. In Maharashtra 186 sugar mills are in operative. Maharashtra is predicted to produce about 117 lakh tonnes in 22021-22. Highest sugar production this year is especially thanks to higher cane yields and sugar recovery as compared to the last season.

Geographically Solapur district is found between 17.10 to 18.32 degrees north latitude and 74.42 to 76.15 degrees east line of longitude. The district is placed on the south east fringe of the state and lies entirely among the Bhima and Seena basins. Whole of the district is drain either by Bhima river or its tributaries. The district covers geographical region of 14844.6 sq.kms. This is 4.82% of total space and contains 4.10% population of Maharashtra state. The soils of the district can broadly speaking are classified into three types- Black, Coarse Gray and Reddish. In keeping with topography the district is split in 3 natural zones- Eastern Zone, Central or Transitional Zone and Western Zone. District comprising of six revenue sub divisions and has 11 tehsils. Average rainfall of the district is a smaller amount than 750 mm. The maximum temperature of the district is 40.1 0 c, while minimum is 16.1 0 c respectively. In the total area of Solapur agriculture covers 11480 sq. kms.

Solapur is notified district of sugar producer in Maharashtra. Sugarcane is the majorly grown crop in the solapur. Sugarcane covers 35,400 (ha) area in the district. Solapur has highest number of sugar factories in Maharashtra .It has co-operative and also private sugar factories. Solapur provide large employment in sugar industry, migrant workers participate in the crushing season of district. Majority of these workers are come from Beed district. The sugarcane cutters and

sugarcane transport workers play vital role along with sugarcane grows in the sugar industry. In 2020-21 solapur had 29 sugar mills in operation and they produced 12465967 (quintal) of sugar.

Methodology

The present study is descriptive and analytical in design. The main source of data is secondary. The origin of the data for the present studies was taken from the 'Pradeshik Sakhar Sahsanchalak Karyalay, Solapur'. And some data collected from the government reports, available journals, articles, newspapers and websites etc.

Objective

- To analysis the sugarcane crushing profile in solapur district.
- To understand the production trend of sugar factories in solapur.

Data collection

The collection of secondary data different internet websites, government websites, books, journals articles, and local daily newspapers are used. Also use 'Pradeshik Sakhar Sahsanchalak Karyalay, Solapur' crushing report. The data on area, production, productivity and cost of cultivation of sugarcane was collected from Solapur district survey report, Economic survey of Maharashtra (2021), sugar industry report etc. All the interpretation and analysis is carried out by statistical technique.

Result and Discussion

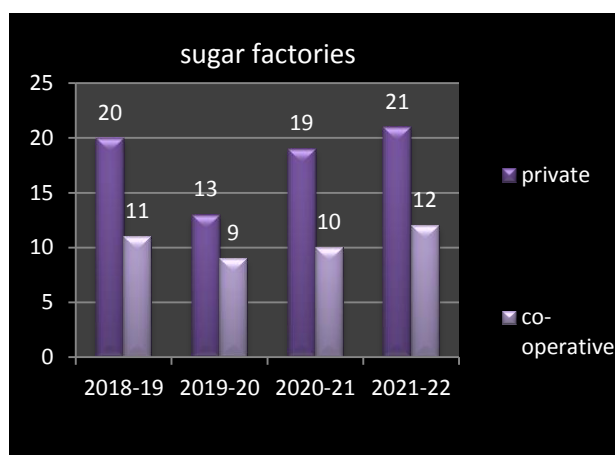
This study tries to analyse the sugarcane crushing profile, sugar production and private & co-operative sugar factories of solapur district. The sugarcane crushing profile is discussed in depth given below –

Sugarcane Crushing Profile Of Solapur District. (2018-19 to 2021-22)								
	2018-19		2019-20		2020-21		2021-22	
	private	co-operative	private	co-operative	private	co-operative	private	co-operative
1.No. of sugar factories	20	11	13	9	19	10	21	
2.Total factories	31		22		29		33	
3.Crushing capacity (MT)	80650	55200	64650	53950	75650	51700	80650	52
4.Total crushing capacity(MT)	135850		118600		127350		133350	
5.Crushed sugarcane(MT)	9377895	6692749	3034996	3294713	7445004	5840030	10642664	72
6.Total crushed sugarcane(MT)	16070644		6329709		13285034		17860263	
7.Sugar	9395273	7044640	2843713	3468595	6558352	5907615	9588715	68

production(q)				
8.Total sugar production(q)	16439913	6312308	12465967	16469320
9. Total sugar recovery (%)	10.23	9.97	9.38	9.22
10. Total sugar recovery for juice & ethanol (%)	10.02	8.28	9.06	9.9
Source: Pradeshik Sakhar Sahsanchalak Karyalay, Solapur.				

Sugar factories

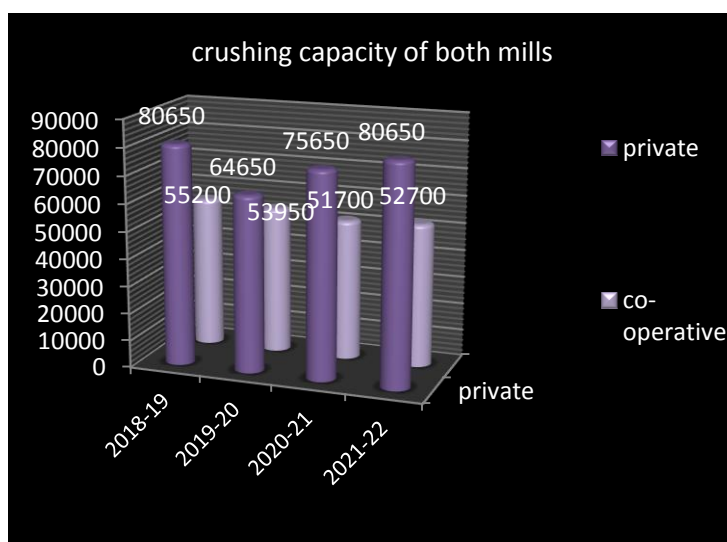
Solapur have large number of sugar factories in the state. In SY 2018-19 there were 20 private and 11 co-operative sugar factories working in Solapur. During the 2021-22 current year 21 private factories and 12 co-operative sugar factories had crushed sugar.



Source: Pradeshik Sakhar Sahsanchalak Karyalay, solapur

Crushing capacity

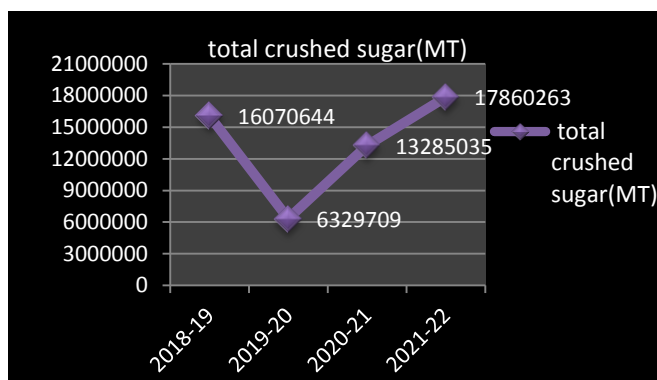
According to above data private sugar mills have more sugarcane crushing capacity than co-operative sugar mills. During the crushing season of 2019-20 and 2020-21 there had a low sugar capacity of both sugar mills because of covid-19 and pandemic situation.



Source: [Pradeshik Sakhar Sahsanchalak Karyalay, solapur]

Crushed sugarcane

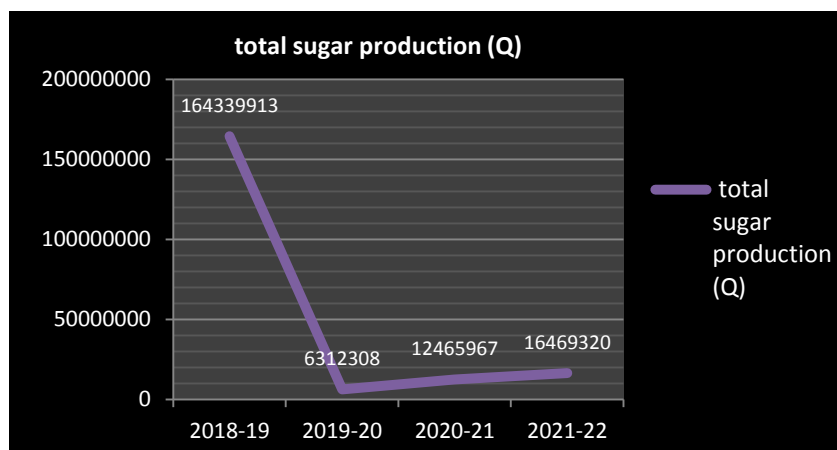
During the four crushing season SY 2019-20 had low sugarcane crushed but current year both sugar mills had crushed 17,860,263(MT) of sugarcane, it is higher than before occurring pandemic situation and that is a good for the sugar industry and its economy.



Source: [Pradeshik Sakhar Sahsanchalak Karyalay, solapur]

Sugar production

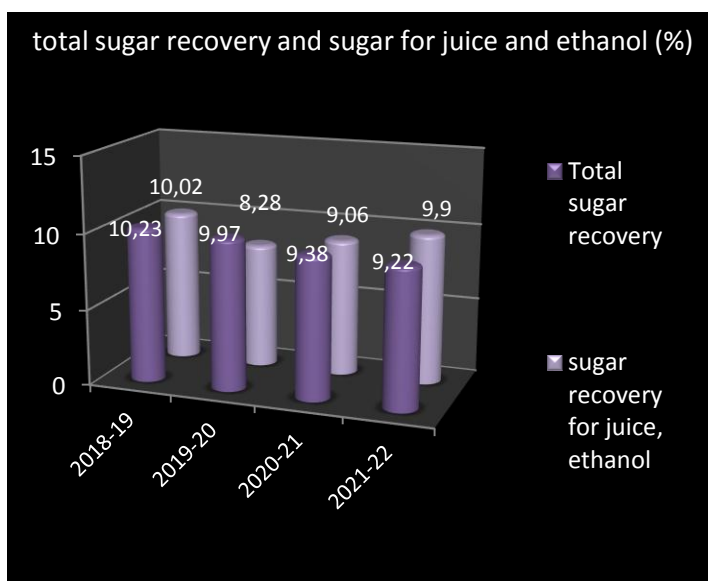
Solapur district is a notified sugar producer in the state. During the above four crushing season private and co-operative, both sugar mills had produced average 12,921,877(quintal) of sugar. Private sugar mills averagely produced 7,096,514(quintal) of sugar and co-operative sugar mills averagely produced 5,825,364(quintal) of sugar. It means private sugar factories produced more sugar than co-operative sugar factories.



Source: [Pradeshik Sakhar Sahsanchalak Karyalay, solapur]

Sugar recovery and production of B-Hy, Ethanol, Juice and syrup

Molasses is sticky viscous fluid which is left one sugar is extracted from the cane juice. Counting on the proportion of sugar, left it's classified as B heavy or C with the former having additional sugar then the later. The government is encouraging sugar mills to produce ethanol from sugarcane juice, sugar, sugar syrup and B-Hy molasses to divert excess sugar. The government conjointly fastened the remunerative price of ethanol from numerous feedstock to encourage sugar mills to divert excess sugar. Throughout the above four crushing seasons there was 9.7% average sugar recovery of each sugar factories and 9.315% average of sugar recovery for juice, syrup and ethanol.



Source: [Pradeshik Sakhar Sahsanchalak Karyalay, solapur]

Conclusion

This study has conclude that, the sugarcane area, crushing capacity, crushed sugarcane, sugar production of private sugar factories and co-operative sugar factories of solapur district in 2018 to 2022 period. Sugar industry is the largest agro based industry in India. Recent years most of the sugar units have by-product utilization plants. Solapur district have more number of private sugar factories than co-operative sugar factories. Private sugar factories have more sugarcane crushing capacity and sugar production compare to co-operative sugar mills. In a pandemic situation both sugar factories face problems like low sugarcane crushing capacity and low sugarcane production, But after covid-19 and pandemic both factories are performs better than before pandemic they were performed. The study also concludes that government pushes sugar factories to use sugarcane juice for production of ethanol, juice, syrup etc. to control excessive sugar production.

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