

The Role of Sugar Industries in Economic Development in India

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Abstract: *India is a rapidly growing nation in the world, in terms of industrialization and service sector. In India, there are a lot of large-scale industries exist. I.e. iron and steel industries, cement industries, paper industries, sugar industries, cotton industries, etc. Sugar is one of the most produced and a traded commodity in the world and India is the largest consumer of sugar in the world. The sugar industry is the most important industries in the country that impact the livelihood of about approximately 5 crore formers and their family members and approximately 5 lakh workers directly employed with the sugar mills. There are more than 700 installed sugar factories in the country with a crushing capacity of about 340 lakh metric tonnes of sugar and an annual turnover of about Rs 80,000 crore. These numbers show the important role the sugar industry plays in India's economy. As the population increases the demand for goods and services also increases and most people like tea and coffee, that's why sugar demand also increases. The major objectives of the studies are to know the production process, to know the sugarcane cultivation in different states in India, and to know the sugar production in different states in India. The study is based on secondary data, this paper focused on the role of sugar industries in economic development in India.*

Keywords: Sugarcane, sugar industries, production, sugar, economic development.

I. INTRODUCTION

Sugarcane is being grown in about 126 million hector in the world with a total sugarcane production of approximately 1850 million tonnes. Three fourth of the total sugar produced comes from sugarcane and the rest from sugar beet. More than 115 countries cultivate sugarcane with a total sugar production of 177 million tonnes. Brazil is the largest producer of sugar followed by India. Sugar industries are backbone of Indian economic development, most of the formers are cultivate the sugarcane and sugarcane is the main key raw material for producing of sugar. Two different raw materials sugarcane and beet are the extracted from the sugar; both produce identical refined sugar. India is the second largest sugar production country in the world. Sugar industry involves a total capital investment of Rs. 80,000 crore and provides employment to 2.86 lakh workers. In addition, 2.50 crore sugarcane growers also get benefit from this industry. India producing nearly 22% of total sugar production in the world. It is the second largest agro-based industry in India, employing nearly 3.25 lakh worked directly and indirectly employment to 4.5 crore formers growing sugarcane in different parts of the country,

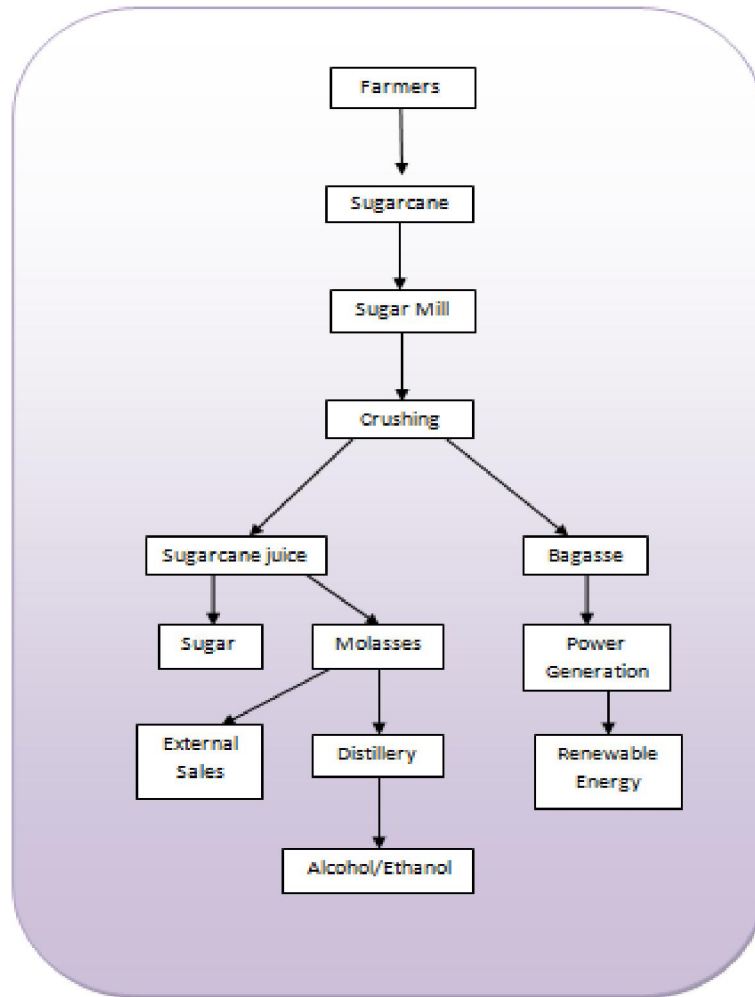
1.1 Objectives:

- To know the sugar production process.
- To know the sugarcane cultivation in different states in India.
- To know the sugar production in India.

1.2 Methodology

This Paper is purely based on secondary data. The data have been collected from various national and international journals, books and websites

1.3 Sugar Production Process



Sugarcane from farmer is crushed to get sugarcane juice and Bagasse as the by-product, which can further be used in power generation, partly used for captive consumption and remaining is sold. The sugarcane juice is further processed to get sugar and Molasses, which can either be sold directly or further processed in the distillery to give Alcohol. This Alcohol can either be Industrial Alcohol which is sold to Chemical companies for industrial consumption or potable Alcohol (liquor); or Ethanol which can be used for blending in the fuel.

Table 1: Top 10 Sugarcane Cultivation States in India from 2018-19 to 2020-21
(In Million tonnes)

SI No	State/UT	2018-2019	2019-2020	2020-2021
1	Uttar Pradesh	179.71	179.54	177.67
2	Maharashtra	89.77	69.31	101.59
3	Karnataka	42.41	38.18	42.09
4	Tamil Nadu	17.14	14.12	12.80
5	Bihar	20.12	13.58	10.71
6	Gujarat	11.33	11.57	15.85
7	Haryana	8.51	7.73	8.53
8	Andra Pradesh	8.09	6.72	4.12
9	Punjab	7.77	7.30	7.49
10	Uttarakhand	6.33	6.94	6.96

Source: Ministry of Agriculture and Former Welfare



Table 1 shows that top 10 sugarcane cultivation states in India from 2018-19 to 2020-21. Uttar Pradesh has 179.71 million tonnes of sugarcane production in the year 2018-19. Following this, it has 179.54 million tonnes of Sugarcane production in 2019-20, and 177.67 million tonnes of Sugarcane production in 2020-21. Uttarakhand has 6.33 million tonnes of sugarcane production in 2018-19. Following this, it had 6.94 million tonnes of sugarcane production in 2019-20, and 6.96 million tonnes of sugarcane production in 2020-21. Therefore, Uttar Pradesh has the first rank and Uttarakhand has the last rank in sugarcane production in the top 10 states in India.

1.4 Sugar Production in India

During the first 2 five year plans, targets of sugar production were over fulfilled. In the next 3rd five year plan and 3 annual plans area sown under sugarcane declined, weather remained inclement, financial controls were imposed in 1967-1968. At the end of 4th five year plan, sugar production rose to 47 lakh tonnes. During the 5th five year plan, greater importance was attached to cooperative sector and production of sugar become 52 lakh tonnes. But target of sugar production could not be achieved in the 6th plan. From there on, need for high yielding varieties of seeds was felt, greater emphasis were placed on irrigation, higher doses of fertilizers were recommended and proper attention was given to plant protection. During the 8th five year plan, 'technology mission programme' was launched, under which special care was taken for the promotion of modernization and expansion of sugar mills.

Table 2: Major Sugar Production States in India from 2013-14 to 2017-18 (Million Tonnes)

Table with 6 columns: States, 2013-2014, 2014-15, 2015-16, 2016-17, 2017-18 E. Rows include Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Gujarat, Andra Pradesh, Others, and Total.

Table 2 indicates the major sugar production states in India from 2013-14 to 2017-18. Uttar Pradesh has 6.6 million tonnes of sugar production in the year 2013-14. Following this, it has 7.1 million tonnes of sugar production in 2014-15, 6.8 million tonnes of sugar production in 2015-16, 8.8 million tonnes of sugar production in 2016-17, and 12.0 million tonnes of sugar production estimated in 2017-18. Andra Pradesh (including Telangana) has 1.0 million tonnes of sugar production in 2013-14. Following this, 0.9 million tonnes of sugar production in 2014-15, 0.8 million tonnes of sugar production in 2015-16, and only 0.5 million tonnes of sugar production in 2016-17. Also, other states such as mainly Haryana, Punjab, Bihar, Uttarakhand, and Madhya Pradesh have 2.3 million tonnes of sugar production in 2013-14. Following this, 2.5 million tonnes of sugar production in 2014-15, 2.4 million tonnes of sugar production in 2015-16, and 2.8 million tonnes of sugar production in 2016-17. Therefore, the total production of sugar in 2013-14 was 24.4 million tonnes, it an increase of 32.0 million tonnes in 2017-18.

1.5 Problems of Sugar Industries

- High Production Costs: High Manufacturing Costs is caused by Large Cost of Sugarcane, Technology Shortages, Economically nonviable Production Process, and Very Large Excise Duty. India has one of the largest sugar production costs in the world. To improve sugarcane production in the farming sector and to implement the newest innovation and production efficiency in the sugar factories, extensive research is needed. For example, Bagasse may be utilized in the production of paper pulp, insulating board, plastic, carbon cortex etc. Another significant by-product that can be profitably used to make alcohol is molasses.
Old and out-of-date machinery: The majority of the machinery used in India's sugar mills, notably those in Uttar Pradesh and Bihar, is 50-60 years old and has to be replaced with new machinery. But a number of mill owners are discouraged from replacing the outdated equipment with newer models due to low profit margins.
Regional disparities in distribution: Maharashtra and Uttar Pradesh are home to more than half of the

country's sugar mills, and these two states account for nearly 60% of nations production. On the other hand, there are numerous states in the North-East, Orissa, Jammu and Kashmir, where there is no appreciable growth of sugar industry. Regional imbalances result from this, and those have their own repercussions.

- **Low Per Capita Consumption:** India consumes only 16.3 kg of sugar annually, compared to 48.8 kg in the USA. 78.2 kg in Cuba, 53.6 kg in the United Kingdom, 57.1 kg in Australia, and 21.1 kg on average worldwide. Due to the low market demand, sugar sales in India face difficulties. Small size of mills: The majority of sugar mills in India are small, with daily capacities ranging from 1,000 to 1,500 tonnes. Large-scale production is therefore unprofitable. A large number of the mills are not profitable
- **Fluctuating Production Trends:** Cotton, oil seeds, rice, wheat, and other crops and foods must compete with sugarcane. As a result, there are variations in the amount of land that may be used for sugarcane farming, which causes variations in overall production. This has an impact on how much sugarcane is supplied to the mills, and it also impacts how much sugar is produced each year.
- **Low Sugarcane Yield:** India is the country with the biggest area under sugarcane production, but its per-hectare yield is very poor when compared to some of the other major sugarcane producing nations in the globe. For instance, India's output is just 64.5 tonnes per hectare, which is far lower than Java's 90 tonnes and Hawaii's 121 tonnes. Because of this, overall production is low, and sugar mills struggle to get enough sugarcane. The introduction of high yielding, early maturing, frost resistant and high sucrose content sugarcane cultivars as well as the management of pests and diseases that are harmful to sugarcane are all efforts being made to address this issue.
- **Competition with Khandsari and Gur:** Khandsari and gur were produced in rural India even before the development of the organized sugar industry. The khandsari industry is exempt from excise taxes; hence it is able to pay sugarcane growers more. Also, sugarcane farmers themselves use sugarcane to make gur, saving labour costs, something that is not achievable in the sugar sector. Over 60% of the sugarcane produced in India is used to produce khandsari and gur, leaving the organized sugar industry without a sufficient supply of this essential raw material.
- **Short Crushing Season:** Sugar production is a seasonal phenomenon, with a short crushing season that typically lasts between five to seven months every year. The mills and their employees are unemployed for the remainder of the year, which causes financial problems for the sector as a whole. To extend the crushing season, sugarcane can be sown and harvested at appropriate intervals in various locations close to the sugar mill. This will lengthen the time that sugar mills have access to sugarcane.

II. CONCLUSION

The Indian domestic sugar market is one of the largest markets in the world. And India has the 2nd largest population country in the world therefore, India has first place in sugar consumption. In the sugar industry to increase profitability we should reduce the cost of cultivation and improve the productivity per unit. It is possible through new research innovations, technological interventions, and mechanization. From the sugarcane, we produce Bagasse, from the use of Bagasse we can produce power generation and renewable energy, and other products from sugarcane are molasses, Distillery alcohol, and ethanol. In India, the Sugar industry is playing an important role in economic development, and employment generation, in rural India. In India, most the private sugar mills are providing education facilities, health facilities, and other facilities which are needed for the development of rural people. But sugar industry is facing a lot of problems in the compression of other sugar producer countries. So there is a need to solve the problems of the sugar industry from sugarcane to sugar sales.

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