



SECOND GREEN REVOLUTION AND SUGAR INDUSTRY IN INDIA

Dr. A. Thomas David¹ and S.Vijayalakshmi²

¹Associate Professor & Research Advisor, PG and Research Department of Economics, Government Arts College (Autonomous) Kumbakonam.

²Ph.D Research Scholar, PG and Research Department of Economics, Government Arts College (Autonomous) Kumbakonam.



ABSTRACT:

Indian Sugar industry is the second largest Agro based processing industry next to the Cotton Textile industry in the country. India is the second major sugar producing country in the world. Sugar industry occupies an important place among organized industries in India. This industry has been international in resource mobilization, employment generation, income generation and creating social infrastructure in rural areas. Indeed sugar industry has facilitated and accelerated the pace of rural industrialization. From this study we can conclude that the agricultural production especially sugarcane production consequently sugar production has increased in the Second Green Revolution period. There is surplus production of sugar in the domestic and global sugar market. The state -wise share of sugar production in India shows that Maharashtra tops the list with 34 per cent followed by Uttar Pradesh with 26 percent and Tamil Nadu with only 7 percent.

KEYWORDS: Sugar, Industry, India.

INTRODUCTION:

Indian Sugar industry is the second largest Agro based processing industry next to the Cotton Textile industry in the country. India is the second major sugar producing country in the world. Sugar industry occupies an important place among organized industries in India. This industry has been international in resource mobilization, employment generation, income generation and creating social infrastructure in rural areas. Indeed sugar industry has facilitated and accelerated the pace of rural industrialization.

At present there are 553 registered sugar factories having capital investment of Rs. 50,000 crores and an annual production capacity of 180 lakh metric tons. The annual turnover of the industry is to the tune of Rs.25,000 crores. The Central and State Governments receive annually Rs.2,500 crores as excise duty, purchase tax and cess from sugar industry. More than 4.50 crore farmers are engaged in sugarcane cultivation and about 5 lakh rural people have been in direct employment in this industry. Sugar industry has brought about socio-economic changes in rural India by way of facilitating entrepreneurial activities such as dairies, poultries, fruits and vegetables processing and providing educational, health and credit facilities. Thus the sugar industry is occupying an important place at the global as well as Indian scenario.

India's Second Green Revolution:

About 400 million tons of food grain production as opposed to about 214 million tons in 2006-07 was the target of "Second Green Revolution" in India. It is unlikely to happen tomorrow or next year,

but it possibly may happen by 2020. To achieve the foregoing amount of production a growth rate of 5 to 6 percent in agricultural sector has to be maintained over the next few years.

What is required to start the Second Green Revolution?

If the gains of First Green Revolution 1970-90 are to be strengthened then a Second Green Revolution is to be initiated. The first green revolution was made possible with the availability of miracle wheat variety, electricity at the farms and land reforms.

It will also require:

- i) Genetically modified (GM) seeds to double the percentage of production (i.e.) technology.
- ii) Private sector has to develop and market the usage of GM foods (i.e.) efficient marketing of the ideas.
- iii) Linking of rivers as much as economically possible to bring surplus water of one area to others (i.e.) linking of rivers.

Sugarcane –Area under Cultivation, Production and Yield:

India's sugarcane production and area cultivation registered a compounded annual growth rate (CACR) of 3.70 percent and 2.03 percent respectively, during the last 12 years ending SS 13-14 (Sugar Season refers to the period from October 01 to September 30). Although sugar can be extracted from any crop having sugar content, sugarcane is preferred by the farmers as it is a durable crop backed up strong price support by the Government of India (GOI) in terms of favorable prices for cane through the Fair & Remunerative Price (FRP) / State Advisory Price (SAP) mechanism which has helped it to generate competitive returns as compared with paddy and cotton (refer Table 1 for sugarcane acreage, production and yield trend during last 12 years) Acreage under cultivation has increased consistently during last 5 years ending SS14-15 and the sugar production in SS14-15 is expected to remain the same when compared with SS 13-14.

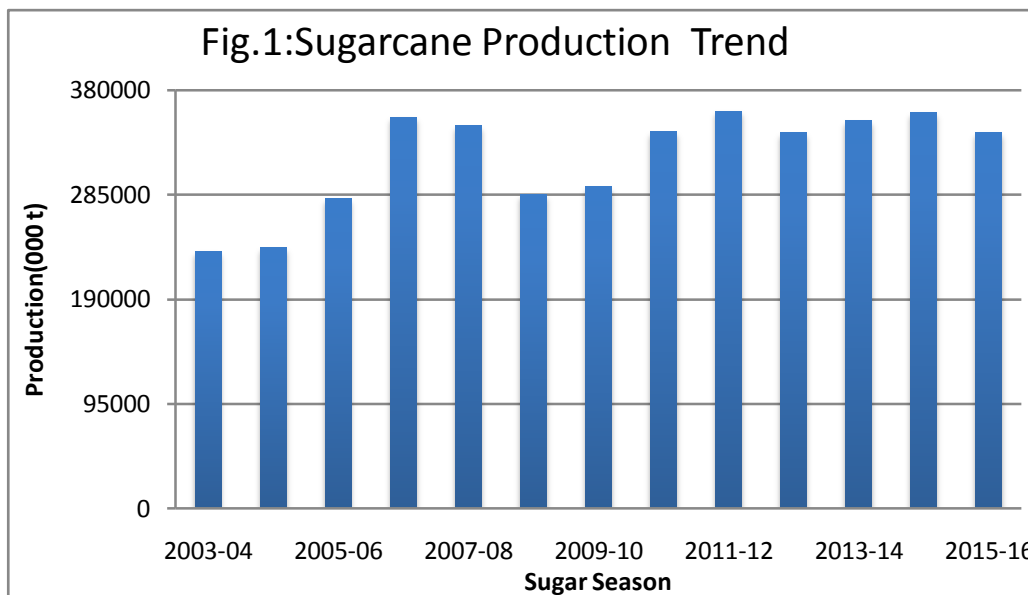
However, climatic conditions, inadequate availability of quality seed and irrigation facilities, lack of efficient technology and inadequate farm credit were primarily responsible for fluctuating yield ratio.

Table 1: Sugarcane Acreage, Production and Yield in India

year	Area (000 ha)	Production (000 t)	Yield (t/ha)	Cane Crushed (000 t)	Sugar Production (000 t)	Sugar Factories	Sugar Consumption (000 t)
2003-04	3938	233862	59.39	132511	13546	423	7285
2004-05	3661	237088	64.76	124771	12691	400	18500
2005-06	4202	281172	66.91	188672	19267	400	18500
2006-07	5151	355520	69.02	279249	28361	453	19900
2007-08	5055	348188	68.88	249906	26356	504	21900
2008-09	4415	285029	64.56	144978	14538	516	22912
2009-10	4175	292302	70.01	185548	18912	488	21328
2010-11	4886	342382	70.07	239807	24394	490	20769
2011-12	5038	361037	71.66	256975	26343	527	22000
2012-13	4998	341198	68.27	250598	25141	529	23000
2013-14	4993	352141	70.53	238176	24360	513	24427

2014-15	5144	359330	69.85	273073	28303	538	24800
2015-16	4918	341425	69.42				

Source: Indian Institute of Sugar Research (IISR), New Delhi



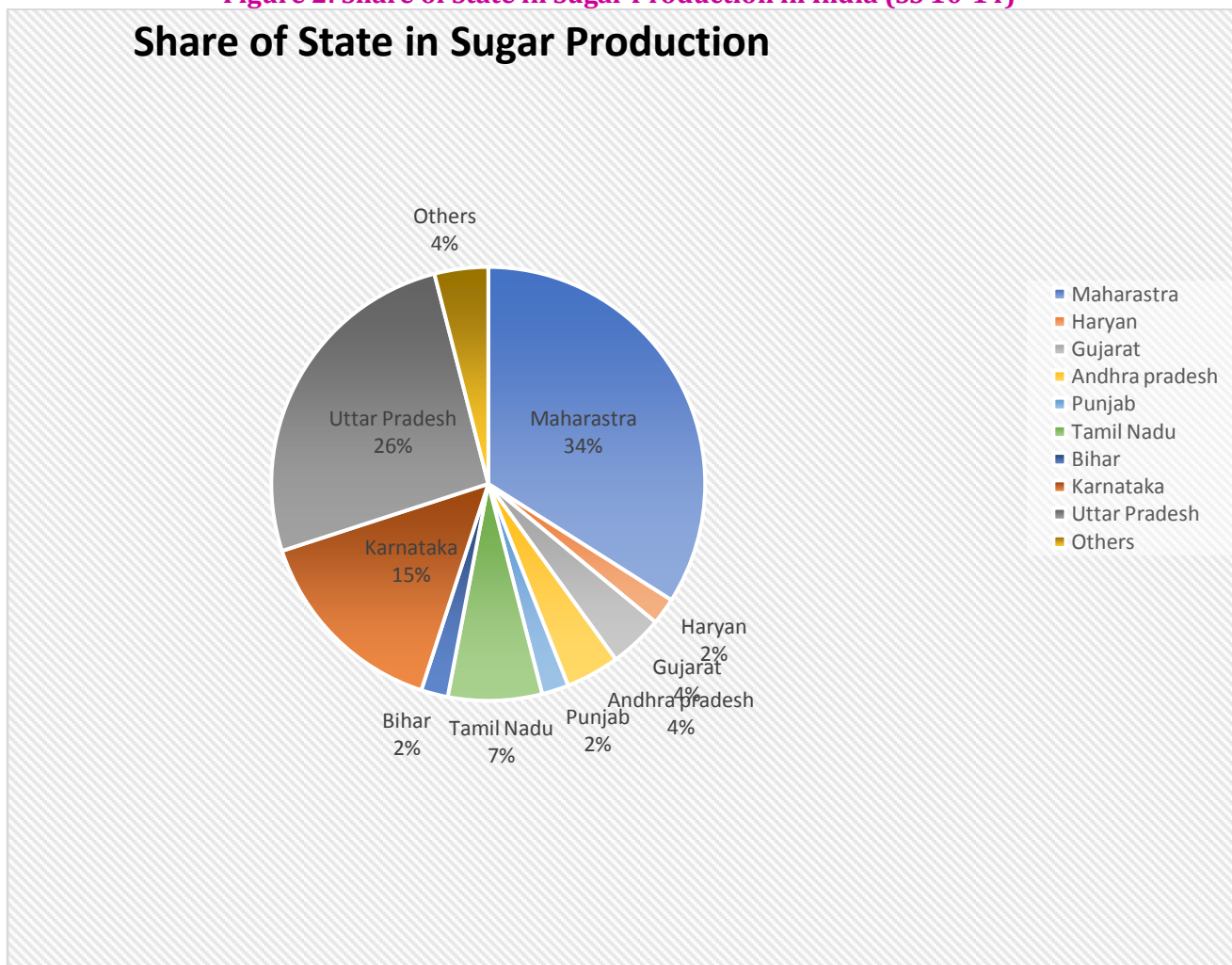
Source: Indian Institute of Sugar Research (IISR), New Delhi

SUGAR INDUSTRY SIZE, STRUCTURE AND STATE-WISE PRODUCTION TRENDS:

The Indian Sugar Industries (ISI) accounted for more than 15 percent of the total world sugar production in last 5 years ending SS14-15. As on January 31, 2015 India has 703 sugar mills (including two standalone refineries) with major concentration in rural areas. About 50 percent of the sugar mills are promoted by sugarcane farmers in the form of co-operative societies. Among them 328 units have distillery facility, while 210 units have own co-generation power plants. India produces around 300-350 MMT sugarcane, 24-26 MMT white sugar and 6-8 MMT jiggery and khan sari annually to meet the demand of the sweeteners. Moreover, the ISI produces about 2700 million litres of alcohol, 2300 Mega Watt (MW) of power and multiple allied products. The industry exports about 1000 MW of power to grid after meeting its captive power requirement. The ISI is gradually transforming into sugar complexes by producing sugar, bio-electricity, bio-ethanol, bio-manures and chemicals, contributing about 1 percent to the national GDP. Maharashtra, Uttar Pradesh and Karnataka are the major sugar producing states in the country. Tamil Nadu accounts for only 7 per cent of the total sugar production in India; of which Maharashtra and Uttar Pradesh together account for nearly 60 percent of total sugar production (refer Figure 2 for state-wise sugar production) Uttar Pradesh was the largest sugarcane cultivating state and accounted for approximately 39 per cent of the total sugarcane crop in SS13-14 followed by Maharashtra with 22 percent. Average yield of sugarcane during the last 5 years in UP was 57-59 ton/hectare as compared with Maharashtra, which has an average yield of 80-85 ton/ hectare. Furthermore, UP also had a low sugar recovery rate and consequently ranked second in sugar production after Maharashtra during the last 5 years ended SS13-14.

The ISI is amongst the few industries that have successfully contributed to the rural economy. Furthermore, the farmers opt for sugarcane as preferred crop on account of better yield per hectare, lower irrigation requirement, and strong intervention by the Government towards protection of the interest of the farmers in terms of sugarcane through fixing FRP/SAP.

Figure 2: Share of State in Sugar Production in India (SS 10-14)



Source: Indian institute of Sugar Research (IISR), New Delhi
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Production Surplus in Domestic and Global markets constrains sales realization:

The ISI expected to register surplus production for the fifth year in a row since SS10.(Refer Table 1 for annual production and consumption trend). The industry had opening stock of 7.5 MMT as on October 1, 2014, and is estimated to produce 25.05 MMT during SS14-15 as against consumption of 24.80 MMT for the same period resulting in further increase in surplus sugar stock at the end of season.

Similarly, global sugar production during the last five SS also exceeded the total requirement in the world. The surplus stock has not only impacted the sales realization and squeezed the operating spread of sugar mills but also forced the closure of small and medium sized mills and consolidation in some geography.

Financial Performance of Sugar Mills:

High sugarcane prices during the last 3 years in domestic market, uncompetitive pricing in export market, crystallization of working capital, sugar stocks and mounting cane arrears has plugged the financial profile of entities in the sugar industry during the FY 14. With drop in total operating income and profitability of the sugar mills, overall operations of small and medium scale sugar mills expected to remain under stress in forthcoming SS.

OUTLOOK:

India will continue to be a major sugar producer in the world and is expected to be a sugar surplus country for the sixth consecutive SS. The ISI is expected to be a net exporter in SS15-16 and sugar imports, if any, will be negligible. The average sugar recovery rate for cane (planted in both tropical and sub-tropical regions) is also expected to improve during SS15-16. On the consumption side, strong domestic demand from soft drink manufacturers, confectionaries, hotels, bakeries and ice-cream manufacturers will support higher levels of consumption. India's relatively strong economic growth, stable political situation, rising incomes, a young population and changing consumer consumption patterns are envisaged to be the key drivers encouraging higher sugar consumption.

However, Indian sugar prices are expected to remain weak due to surplus sugar stock in both domestic and global markets. The government's intervention is necessary in order to revive the ISI which has been reeling under the twin impacts of high sugarcane prices and low sales realization on sugar leading to recurring losses being incurred by sugar mills and mounting cane arrears. Concrete measures are required including emphasize on increasing its ethanol blending programme along with providing flexibility for use of sugarcane as feed-stocks for ethanol production, building compulsory buffer stocks, incentivize export subsidy, restructuring debt of sugar manufacturers, and most importantly implementation of recommendation of the Rangarajan committee for linking the prices of canes to actual realization of sugar and its allied products.

CONCLUSION

From this above study we can conclude that the agricultural production especially sugarcane production consequently sugar production has increased in the Second Green Revolution period. There is surplus production of sugar in the domestic and global sugar market. The state-wise share of sugar production in India shows that Maharashtra tops the list with 34 per cent followed by Uttar Pradesh with 26 percent and Tamil Nadu with only 7 percent.

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