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## Welcome to Research Direction

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## Comparative Study of Sugar Industry in Maharashtra and India



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### ABSTRACT

After textile, sugar industry is the second largest industry in India. Sugarcane is grown in India since ancient times. Initially in 1920s the sugar mills were started in the private sector. After independence in 1947, the initiative was taken up by the cooperative sector.

This research paper attempts to review India's position in production, productivity, crushing capacity, average consumption of sugar in comparison to some major sugar producing countries of the world. Sugar is produced in nearly 135 countries. India ranks second after Brazil in world sugar production. India's share in world sugar production is 15 percent while that of Brazil is 22 percent. But the average cane crushing capacity of India is only 3000 metric tons, while that of Thailand is 10307 metric tons. The average per hectare sugarcane yield in Australia is 82 m.t, in Brazil 79 m.t. while in India it is only 69 m.t. In 2010-11 the world average sugar consumption was 24.2 kg, while that of India was 17.5 kg. India's average sugar consumption is likely to grow up to 30 kgs by 2020-21.

This year 2010-11 India had 527 working sugar mills with an average cane crushing capacity of 3744 metric tons. The sugar recovery was 10.17 and the total sugar output was 24.394 million tons.

The sugar industry in India and particularly in Maharashtra is passing through a crisis today. There are a large number of regulations on sugar industry imposed by the Central and State Governments. But the main contention is about the fixation of sugarcane prices. The cane farmer in the country and especially in Maharashtra is agitating for remunerative prices.

**KEYWORDS** : Sugar crushing capacity, Productivity, Regulatory Controls, Remunerative Price.

## INTRODUCTION

The sugar industry is the second largest agro based industry next to textile industry. Sugar is produced in 135 countries, out of which sugarcane is used as raw material in 83 countries and beet is used by 52 countries. Raw sugar and refined sugar are two different products. Cane sugar producing countries are exporting raw sugar and refined sugar also. Whereas beet sugar producing countries export refined sugar only. Out of the total production of sugar 80% sugar is produced from sugarcane and 20% from beet. However, in future the proportion of beet sugar will increase up to 50%.

India is the second largest producer of sugar in the world after Brazil and is also largest consumer. Out of the total sugar production, India's share is near about 20%. Indian sugar industry is an important agro-based industry and plays a vital role in the development of rural area and economic upliftment of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar industry. Employment is also generated in various ancillary activities relating to transport, trade, servicing, machinery & agricultural inputs.

This research paper presents the overview of sugarcane crushing capacity, production and consumption of sugar in the world and particularly in India. It also deals with export and import of sugar along with the regulatory control on the sugar industry of India. The paper ends with useful suggestions for the development of sugar industry in India.

This research paper gives an overview of sugar production and consumption at the global level and in India. Crushing capacity of sugar industry, imports and exports, regulatory control on sugar mills in India and other related issues on sugar.

## OBJECTIVES OF RESEARCH PAPER

1. To study crushing capacity of sugarcane at global level and India.
2. To study global sugar production and India's share
3. To study production, productivity and recovery percentage of sugar at global and Indian level.
4. To study consumption of sugar at global and Indian level.
5. To study production, productivity and recovery of sugar in India since 1930.
6. To study regulatory control on sugar industry in India.

## HISTORICAL REVIEW OF SUGAR INDUSTRY

History of sugar and sugarcane in India goes back to ancient period. There are many references about sugar in Manusmriti and Atharvaved. Thus it could be rightly said that India has been the original home for sugarcane and sugar. However, sugar production was started in India in 1920 through mechanical process. The development process was very slow, "India met its sugar requirement through imports, in mid 1920 number of sugar mills sprang up in UP and Bihar. By 1930-31. There were 29 sugar factories producing just 10,000 m. tons of sugar and they found adverse competition from Japanese sugar which was ruling the Indian market"

Govt. of India has been encouraging setting up new sugar mills and also motivated them of expansions in capacity. Most of the sugar mills were set up by private businessmen in Uttar Pradesh and Bihar state. Sugar mill owners purchased the sugarcane from small farmers. Government of India had taken various measures to control economic exploitation of small farmer's by sugar mill owners. After independence govt. participated in the share capital of co-operative sugar mills. First co-

operative sugar mill in India on the basis of co-operative principal was established in Maharashtra (Loni) in the year 1950. Today there are 600 sugar mills India. Out of which 35% sugar mills are run on private basis.

**SUGAR MILLS CRUSHING CAPACITY**

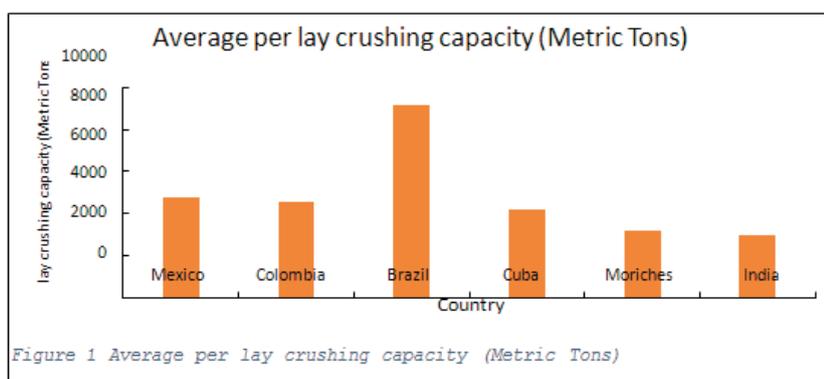
Brazil is the largest producer of sugar in the world and India's rank is second. However, India has seemed 1st rank in total number of sugar mills and Brazil is the second. However, per day sugarcane crushing capacity of Indian sugar mills is just 3000 metric tons and it is less than other sugar producer countries. Average cost of production and processing cost is mainly dependent on crushing capacity of the sugar mills. Per quintal/ Ton overhead expenditure is comparatively less in case of higher capacity, hi India, average plant sizes (on the basis of capacity) has increased from 800 MT to 5000 m.t. however, and cane availability is the limiting factor behind increasing sugar mills capacity.

**THE DETAILS OF PLANT CRUSHING CAPACITY OF THE TOP 10 COUNTRIES ARE GIVEN BELOW:**

**TABLE 1: PLANT CAPACITY OF MAJOR SUGAR PRODUCER COUNTRIES**

Sr. No.	Country	Average per (lay crushing capacity (Metric Tons)
1	Thailand	10307
2	Australia	9216
3	South Africa	6877
4	China	NA
5	Mexico	4749
6	Colombia	4590
7	Brazil	9168
8	Cuba	4229
9	Moriches	3195
10	India	3000

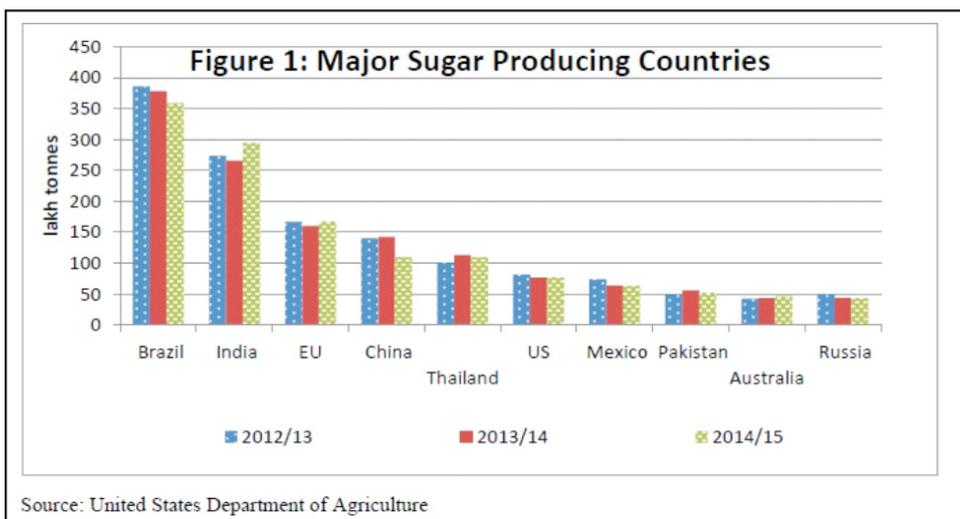
Source: 1. Yojana, Sept. 2006, P. 2 Present position of Sugar Industry- and future Wend, Vasant dado Sugar Institute, P. 22 from the above table it can be said that



1. Thailand has the highest average per day sugar crushing capacity of 10307 m.t.
2. Brazil and Australia's capacity is more than 9000 M. T. per day.
3. India's average per day sugar crushing capacity is very low i.e. 3000 m. t. compared to other as countries.

### SUGAR PRODUCTION BY MAJOR COUNTRIES

Sugar is produced in about 135 countries in the world. Sugar is produced through sugarcane and beet as a raw material. Brazil is the topper and India ranks second in production of sugar. India's comparison with other sugar producing countries and their sugar production is given below:



### THE ABOVE TABLE REVEALS THAT:-

1. Sugar production in Brazil is highest in the world.
2. India was the 2nd largest producer of sugar in the world after Brazil 2014-15
3. India's share in the world production of sugar was 17 percent in 2014-15.

### INDIAN SHARE IN GLOBAL SUGAR PRODUCTION

India ranks first in the world in large number of sugar mills established in India, however, its share in global sugar production is just around 20%. This is because its average production is 15 to 20%. Because plant capacity is less as compared to other countries. In the year 1960-61. Sugar production was just 3.021 million tones. During the span of 50 years it increased by 8 times from 1963 to 2012. Sugar production increased continuously and on the other hand share in global sugar production has increased from 4.95% to 15% and in case of cane sugar it is 20% of the world production. India produces only white sugar. Raw sugar and refined sugar is not produced by Indian sugar mills. The details are given below.

**TABLE 2: INDIA'S SHARE IN GLOBAL SUGAR PRODUCTION**

	1963	1970	1980	1990	2000	2010	2012
<b>World Sugar</b>	51.89	71.14	84.5	110.6	130	156.67	173.83
<b>India's Sugar</b>	2.57	3.73	5.14	12.04	18.51	24.60	26.2
<b>Indian Share in</b>	4.95	5.24	6.08	10.89	14.23	15.51	15.07

(Source- India's Sugar Policy and the World Sugar Economy; FAO International Sugar Conference, Fiji, 2012.)

### SUGARCANE PRODUCTIVITY IN MAJOR COUNTRIES

Sugarcane is a perennial grass that is produced in tropical climate zones. It matures in 12 to 16 months. Various varieties of cane are developed by Sugarcane Research Centre. Productivity of cane is based on different factors viz. quality of agricultural land, availability and quality of water, use of fertilizers, rainy season, periods of maturity and harvesting. More productivity means economic benefits to the farmer's. Because average cost of production is reduced, and it is beneficial to the farmer's and sugar mills. The details of sugarcane productivity of major countries in the world are given below.

**TABLE .3: AVERAGE PER HECTARE SUGAR CANE YIELD**

Sr. No.	Country	Sugarcane yield (In Tones)
1	India	69
2	China	69
3	Brazil	79
4	USA	76
5	Mexico	76
6	Indonesia	63
7	Thailand	69
8	Cuba	37
9	Australia	84
10	South Africa	60
11	Argentina	78

Source FAO stat Database)

### THE ABOVE TABLE MAKES IT CLEAR THAT:

1. Per hectare sugarcane yield of Australian is highest in the world and Brazil bags second position.
2. India's sugarcane yield, as compared to other countries is comparatively low and it ranks is 8th in the world.
3. Cuba has lowest average per hectare yield i.e. 37 m. t

**TABLE 4: PRODUCTION, AREA UNDER CULTIVATION AND YIELD OF SUGARCANE AND SUGAR**

Crop/markings Year	Area (lakh Hectares)	Production (Lakh Tonnes)		Sugarcane Yield (Tonnes/Hectares)
		Sugarcane	Sugar	
2005-06	42.0	2811.7	193.2	66.92
2006-07	51.5	3555.2	282.0	69.02
2007-08	50.6	3481.9	263.0	68.88
2008-09	44.2	2850.3	146.8	64.55
2009-10	41.7	2923.0	188.0	70.02
2010-11	48.8	3423.8	243.5	70.09

Source: Department of Food & Public Distribution (for Sugar Production) and Agricultural Statistics (for production and area of Sugarcane). #: As per 4th Advance Estimate (2014-15) of DAC released on 17/8/2015

1. India's sugar production has increased in last 10 years at CAGR of 2.63 percent.
2. During the same period, India's sugarcane production has increased at CAGR of 2.40 percent and area under cultivation at CAGR of 3.19 percent.

### SUGAR CONSUMPTION

Sugar is used for various purposes. Sugar consumption is mainly divided into two parts (a) institutional consumption and (b) household consumption. Soft drinks, biscuits manufacturing food products, confectionery, pharmaceuticals, hotels and restaurants are the examples of institutional consumption. Sugar used in daily use in the house is called as household consumption. Out of the total sugar consumption in India 78 to 80 % is consumed by institutional customers and only 20 to 22% of sugar is consumed by household customers, in the year 1963 world's sugar consumption was 54.34 MT whereas India's consumption was 2.32 MT. India's share was 4.27 % as compare to world sugar consumption. During the next 50 years world and India consumption increased from 54.34 M. T. to 167.35 MT and 2.32 MT to 22 MT respectively. Percentage of sugar consumption by Indian people to the world consumption increased from 4.27 % to 13.15 %. The details of total sugar consumption and per capita consumption is given below.

Table 5: Average per Capita Sugar Consumption in India

Year 1960-61	Total Sugar Consumption (Lakh tones)	Per Capita Sugar Consumption	World Consumption (Lakh Tons)	Per Capita Consumption global (kg/year)
1960-61	21.13	4.8	N.A.	N.A.
1970-71	40.25	7.4	708.4	19.9
1980-81	49.80	7.3	881.00	20.2

1990-91	107.15	12.9	1078.7	20.5
2000-01	162.00	15.8	1273.00	20.8
2010-11	207.36	17.5	1647.6	24.2
2020-21	390.00	30.00	N. A.	N. A.

*Paper 2. Dhyanyag, Vasant Dada Sugar Institute, Pune. Average Per Capita Consumption at Global Level (2006-2010)*

#### **AVERAGE PER CAPITA CONSUMPTION AT GLOBAL LEVEL (2006-2010)**

Sugar is produced from cane and beet. Out of the total production 80% sugar produced from cane and 20% from beet. Sugar is consumed by the customers for different purposes. India's domestic consumption is only 16 to 20%. Business and institutional consumption is 80%. The details of global consumption are given below:

**TABLE.6: AVERAGE PER CAPITA CONSUMPTION AT GLOBAL LEVEL (2006 TO 2010)**

Sr. No.	Name of the Country	Per Capita Consumption kg/per	Sugar cane / Beet
1	Australia	60	Cane
2	Cuba	61	Cane
3	Brazil	56	Cane
4	Mexico	50	Cane
5	European Union	48	Beet
6	Canada	43	Beet
7	Former Soviet Union	437	Beet /
8	South Africa	36	Cane
9	USA	34	Beet / Cane
10	Egypt	34	Beet / Cane
11	Thailand	30	Cane
12	Korea	27	N.A.
13	Japan	18	Beet /
14	India	17	Cane
15	China	07	Beet /
16	Rest of world	19	Beet /
17	World	21	Beet /

*Source: 2011 outlook of the US and world sugar market, 2010-20, Richard D. Taylor, Won W Kao*

The above information is limited to major countries only. Australia seemed 1st regarding per capita consumption, whereas India's consumption is 28% of Australia.

## INDIAN SUGAR INDUSTRY

India is a vast agricultural country with a total area of about 3.28 Million sq. kms. About 65 percent India's population depends on agriculture. Sugar industry is the second agro-based industry next to textile in India. "The first sugar factory in India was started in 1784 by a civilian 'Croftes' at 'Sooksagar' which was privately owned. The second factory was started in 1791 in Bihar by L. T. Patterson" "Then in 1824 "Late Janies Fredrick Vivian Minchin". French gentleman, started sugar factory at 'Aska' in Orisa. which closed down in 1940. In the beginning of the 20th century the first sugar factory with 'Vacuum Pan Technology' was started in Bihar at 'Saran Marhora'. However, from 2005-06 no. of private sugar factories are established, in Maharashtra out of 190 sugar factories. 45 are established by private sector. Details of development regarding the number of factories, average, crushing days, recovery, average capacity per day are given in the following table:

**TABLE 7: DEVELOPMENT OF INDIAN SUGAR INDUSTRY**

Year	Number of factories in operation	Average Duration	Average Capacity (tones)	Sugar produced (million)	Recovery %
1930-31	29	N.A.	N.A.	0.120	8.96
1940-41	148	113	750	1.113	9.70
1950-51	139	101	882	1.100	9.99
1960-61	174	166	1172	3.021	9.74
1970-71	215	139	1394	3.740	9.79
1980-81	315	104	1718	5.150	9.98
1990-91	385	166	2088	12.047	9.84
2000-01	436	138	3203	18.511	10.48
2010-11	527	135	3744	24.394	10.17

In 1932 there were about 31 sugar factories in the country. They together produced just two lakh tons of sugar, in fact India is the origin of sugarcane cultivation. "Production of sugar through co-operative processing of sugarcane was first attempted in India in 1933. There were four co-operative sugar factories by 1935

one in the Uttar Pradesh (Biswan) and the remaining three at Thummapala. Etikoppaka and Viyyuru had a crushing capacity of 800 tonnes, while that of the other three factories, ranged between 30 to 150 tonnes capacity. Of these only the factory at Etikoppaka has survived and is the oldest co-operative factory today". There was no further development in this direction for nearly a decade and a half. An effective break was provided by the co-operative sugar factory at Pravaranagar. which was registered in 1948 in Shirampur Taluka (now Rahata Taluka) of Ahmednagar District in Maharashtra. Due to the efforts of Late Prof. D. R. Gadgil and Padmashri Vittalrao Viklie Patil the factory could start its first crushing in the year 1950-51 with a capacity of 450 tones. Today it has a plant of 4000 tones capacity. Pravara co-operative sugar factory has to be given credit for initiating of sugar factories in co-operative sector.

**METHODOLOGY ADOPTED FOR FIXATION OF SMP / FRP**

Commission for Agricultural Cost and Prices (CACP) was set up by the Central Government in 1985. The data on the cost of cultivation for various crops in different states are collected by the State Government. At Present 25 Crops are covered under MSP. It includes 12 food grains, 9 oil seeds and 4 commercial crops. Sugarcane is one of the important Commercial Crops covered for determination of SMP/FRP. Each state is divided into homogenous agro-climate zones based on cropping pattern, soil type, rainfall etc. Mahatma Phule Agriculture University, Rahuri. Dist. Ahmednagar, collects information of sugarcane cultivation crops. Tehsil, cluster village, and operational holding area are three stages for collection of cost of cultivation of sugarcane cost from its area of operation. It is expected that field assistants should visit the farmer's places and collect the information regarding cultivation cost of sugarcane. But in practice no farmer is approached by field assistants. Faulty information is recorded and it is submitted to the University. Average cost is calculated by Mahatma Phule Agricultural University, Rahuri and submitted to the Maharashtra Government. As per CACP. This is scientific method adopted for calculation of cost of cultivation of various crops. No doubt, the method is based on scientific techniques and information collected by using Stratified Random Sampling Technique. The main object of fixation of SMP are:

1. Crops which comes under 'Essential Commodities Act, 1955, covered for determination of Minimum Support Price (MSP) and SMP hi case of sugarcane.
2. Farmer's should get adequate returns to cover cost of cultivation of their agricultural produce.
3. Availability of sugar to the consumers at fair price.

In Order to give reasonable price to sugarcane growers, the CACP declares SMP before commencement of crushing season every year. However, from 2009-10 instead of SMP. The GOI declared Fair Remunerative Price (FRP) to sugarcane growers. The information of SMP & FRP is given below.

**TABLE 8: SMP AND PREMIUM FOR EVERY 1 PERCENT OF SUGARCANE RECOVERY**

Season Year	SMP	Recovery	Premium for every 1 %,
2007-08	802.50	<b>Percentage</b>	90.00
2008-09	811.80	9.00	93.00
2009-10	1077.60 (FRP)	9.5	N. A.
2010-11	1391 (FRP)	9.5	146
2011-12	1450 (FRP)	9.5	152
2012-13*	1710 (FRP)	9.5	180

\* Source- Business Standard, dated, 29-8-2011

Sugarcane is the main raw material for sugar industry and accounts for 70% of the total cost of production of sugar. It is major source of income for millions of farmer's. Hence sugarcane price is the important factor both for sugar industry and sugarcane growers. FRP does not match with the actual cultivation cost of sugarcane. As compare with 2010-11 the input cost required for sugarcane crop at present is more than double. However. FRP has been increased by 5% only.

Since the SMP (now FRP) for sugarcane has been fixed without taking into consideration the actual cost of cultivation, the farmer's organizations, particularly sugarcane farmer's organizations agitated over the matter. Because methodology adopted by State Government in computing the cost of

cultivation of sugarcane and other crops is not transparent and collected information is always incorrect.

Govt, of India appointed Dr. M.S. Swaminathan Committee to study as to why farmers commit suicide. Dr. Swaminathan. In his report, stated that CACP each year declared MSP/SMP is incorrect. Hence he suggested that actual cost of production should be considered for MSP/ SMP/ FRP and the benefit should be given at 50 percent oil cost of cultivation for covering of risk due to natural calamity, market instability etc.

**FACTORS CONSIDERED FOR COMPUTATION OF SMP/FRP:**

The (CACP). New Delhi recommends the SMP/FRP for sugarcane on the basis of information supplied by Maharashtra Government. For computation of cultivation cost of sugarcane the following formula used by the Agriculture Product Cell Price. Government of Maharashtra.

1. Direct and Indirect Costs
2. 15 percent margin on Total Cost
3. Transportation Cost of cane
4. Other incidental selling cost.

**TABLE 9: COST OF PRODUCTION PER ACRE RECOMMENDED BY MAHARASHTRA GOVERNMENT**

Sr. No.	Nature of Work	2008-09 Rs.	2010-11 Rs.
1	Hired human labour charges	3660	5280
2	Bullock Labour	957	1767
3	Hired Machinery	707	1256
4	Seeds	2927	3733
5	Fann Manure	888	956
6	Fertilizers	1896	2676
7	Irrigation	2198	2966
8	Micro neutrons	24	25
9	Insecticides & Pesticides	70	32
10	Weedicide	07	15
11	Labour Charges for fertilizers	86	135
12	Total Working Capital (A)	13420	18841
13	Other Expenses	-	-
14	Interest on working Capital	1878	1413
15	Land Revenue taxes	80	87
16	Dep. On Equipment	356	472
17	Int. on fixed capital	1388	926
18	Rent of Owners Land	3988	4584
19	Supervision charges	1574	-
20	Family labour charges	2360	3470
21	Total Other & indirect expenses (B)	11604	10952
	Total Cost A+B	24982	29793

Source: Mahatma Phttle Agriculture University Rahuri.

TABLE 10: COMPUTATION OF SMP/FRJ

S.N.	Particulars	2008-09	2010-11
1	Average yield (tonne per acre)	30.74	34.5
2	Average expenditure per tonne for 11% recovery	813	864
3	Per toone exp. For 9% recovery	666	707
4	Plus 15 % margin (666x15/100)  (707x15/100)	100	106
		<b>766</b>	<b>813</b>

FRP does not match with actual cost of production, because it is based on incorrect data. The methodology adopted for imputing family labour, rental value of land, depreciation, cost of transportation etc. are against fanner's interest. As per Swaminathan Committee Report. Margin should be 50% but it is charged as just Rs.15% by state government, but CACP consider only 10% profit on cost of sugarcane cultivation. Because of lower expenses reported by State Government, the declared FRP is 32% less than expected FRP.

In the year 2011-12 Labour charges per day for men Rs 87/- and for women Rs. 55/- is calculated by the Mahatma Phule Agriculture University and same figures are accepted by Maharashtra Govt. However, the above labour charges are less than the provisions of Minimum Wages Act. It is clear that the government does not follow the rules of Minimum Wages Act.

Very few expenses are recommended to CACP. As the mechanism of collecting data about expenditure is defective. The Directorate of Economics and Statistics (DES). New Delhi, obtains data from the centres, working under the Agricultural Universities of concerned states for which the work is entrusted by CACP. However, there is 110 transparency in data collection. Agriculture Produce Price Cell. Govt, of Maharashtra assumes that 60 percent sugarcane growers retain the sugarcane crop for next season i.e. ratoon crop. But this assumption is not practicable and correct. Separate sugarcane cultivation cost for ratoon crop should be computed separately.

The above data collected through Mahatma Phule Agriculture University. Rahuri and sent to the agriculture department of the State. Maharashtra State is forwarded to the CACP. New Delhi. O11 the basis of information received from various states. FRP is recommended by the CACP and accordingly Central Government declares the FRP of sugarcane before commencement of the crushing season. Sugarcane cost of cultivation reported by Maharashtra Government is less as compared to other states.

### REGULATIONS / LEGACY CONTROL

The Govt, of India closely monitors sugar and sugarcane. The industry is governed by a variety of regulation imposed by the central and state government. Sugar & sugarcane are covered

under "Essential Commodities Act 1955". There are various controls of the Government on formation of sugar mill, jurisdiction, crushing season, selling of sugar, levy sugar and its price, fair\* remunerative price and all other activities. The brief information about regulations is given below.

1 Essential Commodities Act. 1955 -

2. Sugar (Control) Order. 1966- Regulate production and selling of sugar

3. Sugar (Control) Order. 1966- Fixation of Statutory Minimum Price and payment of 1st installment to sugarcane farmers in a 14 days after harvesting of sugarcane.

4. Levy Supply (Control) Order. 1979- Provides Powers for fixation of levy sugar percentage and its price presently proportion of levy sugar is 10% and price is Rs. 1905 per quintal.

5. Sugar (packing and marketing) order. 1970-

6. Sugar Cess Act. 1982- Cess 011 sugar for the development of sugar industry and for matters connected there with.

7. Sugar development Fund Act. 1982-

8. Sugar development fund is applied for the purpose of rendering financial assistance through loans at concessional rates for rehabilitation and modernization of sugar factories as well as sugarcane development.

9. Sugarcane (Purchase Tax) Act. 1961- Impose a tax on the purchases of sugarcane by the owner of a sugar factory. A sugar mill is not allowed to remove sugar without payment of sugarcane purchase tax. At present the rate of purchase tax is Rs. 3% 011 sugarcane price.

10. Molasses Control Order - Control 011 selling of molasses. Ban on interstate transfer, restriction 011 end use etc.

11. Regulations for Trade- The act provides 011 trading of sugar trade license, stock, limit, restriction 011 sale and distribution.

### CONCLUSIONS

1. Highest number of Sugar Mills (527) are operating in India. 60 % in Co- operative sector and 40% in Private sector.

2. 80% of sugar produced from sugarcane and 20% from beet.

3. India is the second largest producer of sugar after Brazil. Out of the world sugar production India's share is 17%.

4. Average per day crushing capacity of Thailand's sugar mills is 10307 and it is highest in world.

5. India's sugar mills plant capacity is only 3000 MT per day. It is lowest as compare to major sugar producers countries.

6. Highest sugar production in Brazil and India's rank is second in the world.

7. In India sugar production was just 3.021 Million tones. During the span of 50 years it was increased by 8 times from 1963 to 2012. India's share in world sugar production increased from 4.95% to 15% during the same period.

8. Sugarcane productivity in Australia is highest in the world (78 ton per hector) and Brazil is second position.

9. India's sugarcane yield is comparatively is less and its rank is 8th in the total world.

10. Average sugar consumption per year increased by 34.91% during 1960-61 to 2010-11.

11. Per capita consumption per year is expected to increase from 17.5 kg. to 30 k.g.

12. India's share in world sugar consumption is 13 %

13. Australia secured 1st rank regarding per capita consumption. Whereas India's consumption is 28% of Australia, in the year 2012-13 India's per capita consumption is 24 kg. And it is more than world average consumption.
14. Indian share is 20% in cane sugar consumption at global level.
15. Sugar mills are seasonal nature industry. Average crushing season is mostly dependent on availability of sugarcane. The total season period is fluctuating and is Maximum for 166 days.
16. Average crushing capacity is only 3744 MT and it is less as compare to major sugar production countries.
17. Average recovery percentage is 9.85 only.
18. Commission for Agricultural Cost and Prices. (CACP) determines sugarcane price and recommends to the Central Govt. Then Fair\* Remunerative Price (FRP) is declared by the Govt.
19. Dr. Swaminathan Committee's report has not been accepted by the Govt. As per suggestions of Dr. Swaminathan Committee, price of agricultural commodities should fixed after including 50% of cost of production.
20. FRP fixed by Govt, does not match with actual cost of production, instead of 5% margin. Only 15% is considered while fixation of prices.
21. 5 million hectares agricultural land used for cane farming. 60 million farmers are sugarcane growers. Cane payment rs. 62,000/- crores (Approx. 12 billion dollars) were paid to sugarcane growers.
22. 78 to 80% sugar is consumed by bulk consumers
23. Levy Sugar percentage is 10% and price Rs. 1905 per quintal. This price is less than cost of production.
24. FRP paid to farmers is not reasonable cane price.
25. Sugar industry in India is under strict control through various Acts.
26. Recently Rangrajan committee (Chairman, Economic Advisory Council to the Prime Minister. Govt, of India) submitted their report on Regulation of sugar sector in India. Committee suggested 70% sugar price should paid to the cane growers, 10% levy Sugar should be abolished, decontrol regarding selling and storage of sugar. These suggestions are partly favorable to cane farmer's and partly to sugar mills.

## SUGGESTIONS

1. 100% plant capacity should be used.
2. Minimum crushing period should not less than 150 days
3. Recovery of sugar percentage should be more than 11%
4. Sugarcane control order. 1966 should be strictly followed by sugar mills.
5. Sugar prices should not be controlled by the Govt.
6. Sugar and sugarcane should be free from 'Essential Commodities Act', 1955
7. FRP should be matched with actual cost of production and 50% margin.
8. Dr. Swaminathan Committee Report and Dr. Rangrajan Committee Report should be accepted by the Indian Government.

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