



## ROLE OF SUGAR INDUSTRY SECTOR IN DEVELOPING THE INDIAN ECONOMY

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### ABSTRACT

Under the structured Industrial Development Policy, sugar industry was part of the Five-Year Plans of Indian Planning system introduced in 1951 and has been under the direct control of the Government ever since. Sugar industry is highly politicized and so closely controlled by the Government which has no parallel in the industry. Government control covers all aspects of sugar business i.e. licensing/capacity/cane area, procurement/pricing/sugar pricing/distribution and imports and exports. Sugar scene in India has been that of protectionism. The mills, the farmers and the consumers all have been protected one way or another. Whereas the protection to farmer and consumer has been consistent, it has not been so consistent for the mill owners. But, winds of liberalization have touched sugar industry also. Due to relaxation of licensing rule after economic liberalization took place in 1991, the imports of sugar was freely allowed and exports were deregulated to some extent. Competition became intense and customers are more demanding on quality and service. Sugar however remains insulated; liberalization and reforms touched sugar limiting to only imports and in some way in exports.

### KEYWORDS

Capacity, Economy, India, sugar, industry, liberalization

### Introduction:

The sugar industry is basically an agro based industry playing an important role in achieving socio- economic development of the rural community in particular and of the region in general. It not only occupies a prominent role in the economy of the rural but at the same time it contributes to the economic development of the nation. Sugar industry holds second rank next to cotton textiles in the country and it shows its importance. It generates employment nearly to 5 lakhs of people directly and indirectly. With the introduction of economic reforms since July, 1991, many changes have come upon industrial structure in India. Relaxing of licensing rule, reduction in tariff rates, removal of restriction on import of raw materials and technology, price decontrol, rationalization of customs and excise duty, enhancement of the limit of foreign equity participation etc are among those which have been introduced at early 1990s. The major objectives of such policy reforms were to make Indian industries as well as entire economy more efficient, technologically up-to-date, competitive and ready to face global challenges with a view of attain rapid growth.

### Review of the literature

**M.G. Jadhav** (2005) made an attempt to analyse the sugar loss at various stages with the help of a parameter developed for this study known as 'Reduced Total Loss Ratio Concept'. The loss of sugar contents at all stages from harvesting to final sugar in bag is a serious economic problem in sugar industry. The study revealed that the reduced total loss ratio gives clear picture of losses at various stages, which could be studied and could be controlled.

**Klaus Niepoth** (2009) examined the developments in falling film plate evaporator technology right from 1992 to 2004 in Germany. The said technology could be further improved to reduce the primary energy consumption, high process stability and high thermal efficiency.

**Sanjay Mohan Bhatnagar** (2010) summarised many research works done by various institutions on co-generation of elec-

tricity from the huge quantity of bagasses. The studies conducted by Tata Energy Research Institute (TERI), indicated that 5200 MW of power could be generated through the use of co-

generation in sugar factories in India. Hence, there was a need of modernization of Indian sugar industry.

**Jahar Singh** (2011) collected sugar samples from ten different sugar factories in India, which followed Double Sulphitation Process (DSP) and found the presence and formation of colour in cane sugar crystals influenced by both macro and micro environmental factors and the sugar colours were acidic in nature.

### Need for the study

The sugar industry is amongst the few industries, which have successfully contributed to the rural economy. The sugar industry generates large scale direct employment, apart from providing indirect employment to thousands of persons in rural areas, who are involved in cultivation, harvesting, transport of cane and other services. In addition to this, the industry has become the mainstay of the alcohol industry. The sector also has a significant standing in the global sugar space. India remains a key growth driver for world sugar, growing above the Asian and world consumption growth average. In India too, sugar is highly regulated. In this backdrop, the article tries to evaluate the performance of Indian sugar industry in terms of capacity utilization measured econometrically over a period of 30 years from 2000-01 to 2009-10.

### Objective of the study

To know the role of the sugar industry in Indian economy

### Methodology

The study has depended on the secondary sources. The secondary sources has been collected through books, journals, website etc. data have been

### Area under Sugarcane

As evident from the table, during 1930-31, there is an area of 1,176 thousand hectares under sugarcane cultivation which consistently increased to 4, 202 thousand hectares with annual growth rate of 1.60 per cent. Between 1930-31 and 2009-10, the area under cane cultivation increased at a decennial rate ranging between 3.2 per cent (1930-31 to 1940-41) and 3.7 per cent (1950-51 to 1960-61) in the post reform period i.e. since 1991, the rate of increase in the area is 1.5 per cent, and annual growth rate during 2000-01 to 2009-10 is declined to -0.26 per cent.

### Production of sugarcane

The production of sugarcane which is 36,354 thousand tonnes during 1930-31 increased to 2, 41,046 thousand tonnes by 1990-91 and stood at 2, 77,750 thousand tonnes

### Production of sugar

The total production of sugar in India which is 120 thousand tonnes during 1930-31, increased to 28,361 thousand tonnes during 2006-07 and stood at 18,912 thousand tonnes during 2009-10. Thus between 1930-31 to 2009-10, the total sugar produced in the country registered an annual growth rate of 6.52 per cent. The chief among other reasons for an impressive growth in sugar production is the consistent and marginally increasing recovery percentage of sugar. It is evident from the table that the recovery of sugar as per cent of cane between 8.96 per cent (1930-31) and 10.55 per cent (2007-08) and stood at 10.20 per cent during 2009-10.

during 2009-10 with an annual growth rate of 2.57 per cent. This signifies that the growth in sugarcane production over the year stood greater than that of the area under cultivation.

### Cane crushed

The total cane crushed is 1,339 thousand tonnes during 1930-31 increased at a growth rate of 6.3 per cent over the years and stood at 1, 85,548 thousand tonnes during 2009-10. A comparative analysis of the three parameters so far discussed reveal that the growth rate over the years in the total cane crushed is recorded at higher. The reasons are increase in the number of factories in operation which are only 29 during 1930-31 and stood at 490 by 2009-10. Moreover, the increasing share of the total cane utilized for the production of white sugar is another significant.

**TABLE- 01: STATE-WISE CANE CRUSHED BY CENTRIFUGAL SUGAR FACTORIES IN INDIA DURING 1994-95 TO 2009-10 (Thousand tonnes)**

States	1994-95	1999-00	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Rank	CARG
Assam	83 (0.04)	56 (0.02)	-	-	-	-	-	-	-	-
Andhra Pradesh	9290 (4.99)	11717 (5.38)	9217 (7.3)	12303 (6.5)	17323 (6.2)	13201 (5.2)	5993 (4.1)	5546 (0.08)	6	-3.17
Bihar	4327 (2.32)	3994 (1.83)	2649 (2.12)	4455 (2.3)	5204 (1.8)	3639 (1.4)	2370 (1.6)	2723 (1.46)	8	-2.85
Goa	166 (0.08)	147 (0.06)	89 (0.07)	121 (0.06)	201 (0.07)	148 (0.05)	108 (0.07)	100 (0.05)	14	-3.11
Gujarat	6512 (3.5)	1075 (0.49)	7405 (5.9)	10787 (5.7)	13390 (4.7)	12801 (5.1)	9445 (6.5)	11295 (6.0)	5	3.50
Haryana	3727 (2)	5150 (2.36)	3938 (3.1)	4188 (2.2)	6695 (2.3)	6065 (2.4)	2528 (1.7)	2648 (1.42)	9	-2.11
Kerala	132 (0.07)	159 (0.07)	-	-	-	-	-	-	-	-
Karnataka	11893 (6.39)	14815 (6.8)	10283 (8.2)	17953 (9.5)	25151 (9.0)	26685 (10.6)	16104 (1.1)	23977 (12.9)	3	4.47
Maharashtra	45997 (24.73)	57099 (26.23)	19456 (15.5)	44578 (23.6)	79884 (28.6)	76144 (30.4)	40022 (27.6)	61390 (33.0)	1	1.82
Madya Pradesh	732 (0.39)	1040 (0.47)	732 (0.5)	959 (0.5)	1931 (0.6)	1822 (0.7)	581 (0.4)	853 (0.45)	11	0.96
Odisha	538 (0.28)	626 (0.28)	466 (0.37)	442 (0.02)	625 (0.2)	666 (0.2)	327 (0.2)	251 (0.13)	12	-4.6
Punjab	3505 (1.88)	4624 (2.12)	3220 (2.5)	3676 (1.9)	5091 (1.8)	5760 (2.3)	2603 (1.7)	2112 (1.13)	10	-3.1
Pondicherry	710 (0.38)	626 (0.28)	185 (0.14)	371 (0.19)	715 (0.2)	576 (0.2)	166 (0.1)	225 (0.12)	13	-6.9
Rajasthan	200 (0.1)	182 (0.08)	52 (0.04)	82 (0.04)	79 (0.02)	84 (0.03)	42 (0.02)	48 (0.02)	16	-8.5
Tamilnadu	21415 (11.51)	18693 (8.58)	11492 (9.2)	23185 (12.2)	27452 (9.8)	22970 (9.19)	16606 (11.4)	4328 (7.72)	4	-9.5
Uttar Pradesh	38310 (20.6)	48788 (22.41)	51472 (41.2)	60809 (32.2)	89494 (32.0)	74739 (29.9)	45482 (31.3)	56734 (30.5)	2	2.48
East Up	11064 (7.4)	12940 (7.2)	16242 (13.0)	21027 (11.1)	29429 (10.5)	24380 (9.7)	14353 (9.9)	17124 (9.2)		2.76
West Up	11917 (8.0)	15644 (8.7)	18511 (14.8)	20665 (10.9)	29170 (10.4)	25148 (10.0)	15864 (10.9)	19507 (10.5)		3.12
Central Up	15329 (10.3)	20204 (11.3)	16719 (13.3)	19117 (10.13)	30895 (11.0)	25211 (10.0)	15265 (10.5)	20103 (10.8)		1.70
West Bengal	95 (0.05)	45 (0.02)	58 (0.04)	59 (0.03)	96 (0.03)	72 (0.02)	29 (0.02)	29 (0.01)	17	-7.14
Uttarra khand	-	-	3955 (3.1)	4519 (2.3)	5608 (2.0)	4110 (1.6)	2421 (0.16)	3175 (1.71)	7	-3.59

Chattisgarh	-	-	102 (0.08)	185 (0.09)	310 (0.1)	424 (0.16)	151 (0.1)	110 (0.05)	15	1.26
Dadar & nagar haveli	-	-	-	-	-	-	-	4 (0.002)	18	-
All India	147643 (100)	178515 (100)	12477 (100)	188672 (100)	279249 (100)	249906 (100)	144978 (100)	185548 (100)		1.43

Source: Indian sugar, December, 2010, Vol. No.LX, No. Nine, the Indian Sugar Mills Association, New Delhi.

**TABLE- 02: STATE-WISE SUGAR PRODUCTION DIRECTLY FROM CANE IN INDIA DURING 2000-01 TO 2009-10 (Thousand tonnes)**

States	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-2010	Rank	CARG
Assam	3(0.01)	-	-	-	-	-	-	-	-	-		-
Andhra Pradesh	1022(5.5)	1048(5.6)	1210(6.0)	886(6.5)	980(7.7)	1236(6.4)	1680(5.9)	1335(5.0)	593(4.0)	515(2.8)	6	-6.62
Bihar	288(1.5)	342(1.8)	408(2.0)	274(2.0)	254(2.0)	422(2.1)	451(1.5)	336(1.2)	214(1.4)	258(1.3)	8	-1.09
Goa	16(0.08)	8(0.04)	13(0.06)	10(0.07)	8(0.06)	11(0.05)	19(0.06)	15(0.05)	9(0.06)	8(0.04)	15	-6.69
Gujarat	1073(5.7)	1056(5.6)	1252(6.2)	1066(7.8)	979(6.2)	1168(6.0)	1425(5.0)	1366(5.1)	1012(6.9)	1189(6.2)	5	1.03
Haryana	586(3.1)	624(3.3)	636(3.1)	582(4.2)	400(3.1)	409(2.1)	652(2.2)	599(2.2)	229(1.5)	248(1.31)	9	-8.23
Kerala	7(0.03)	5(0.02)	7(0.03)	-	-	-	-	-	-	-		-
Karnataka	1613(8.7)	1550(8.3)	1868(9.2)	1116(8.2)	1040(8.1)	1943(10.0)	2660(9.3)	2900(11.0)	1654(11.3)	2558(13.5)	3	4.71
Maharashtra	6705(36.2)	5613(30.2)	6215(30.8)	3175(23.4)	2217(17.4)	5197(26.9)	9100(32.0)	9075(34.4)	4578(31.4)	7067(37.3)	1	0.53
Madya Pradesh	93(0.5)	71(0.3)	71(0.3)	93(0.6)	72(0.5)	94(0.4)	179(0.06)	174(0.6)	56(0.3)	80(0.42)	11	-1.49
Odisha	34(0.1)	25(0.1)	39(0.1)	41(0.3)	44(0.3)	40(0.2)	60(0.2)	63(0.2)	31(0.2)	23(0.12)	12	-3.83
Punjab	496(2.6)	593(3.2)	587(2.9)	390(2.8)	315(2.4)	338(1.7)	486(1.7)	534(2.0)	242(1.6)	181(0.95)	10	-9.58
Pondicherry	38(0.2)	39(0.21)	34(0.16)	20(0.14)	18(0.14)	28(0.14)	59(0.2)	50(0.18)	16(0.1)	19(0.10)	13	-6.69
Rajasthan	6(0.03)	5(0.02)	2(0.009)	10(0.07)	4(0.03)	6(0.03)	7(0.02)	6(0.02)	4(0.02)	4(0.02)	16	-3.97
Tamilnadu	1781(9.6)	1839(9.9)	1644(8.1)	921(6.7)	1108(8.7)	2142(11.1)	2540(8.9) 2141(8.1)	2141(8.1)	1598(10.9)	1280(6.7)	4	-3.24
Uttar Pradesh	4394(23.7)	5260(28.3)	5651(28.0)	4551(33.5)	5037(39.6)	5784(30.1)	8475(29.8)	7319(27.7)	4064(27.9)	5179(27.3)	2	1.65
East Up	1114(6.0)	1462(7.8)	1980(9.8)	1399(10.3)	1601(12.6)	2093(10.8)	2823(9.9)	2414(9.1)	1291(8.8)	1578(8.3)		3.54
West Up	1663(8.9)	1825(9.8)	1845(9.1)	1700(12.5)	1835(14.4)	1913(9.9)	2744(9.6)	2432(9.2)	1400(9.2)	1781(9.4)		0.68
Central Up	1617(8.7)	1973(10.6)	1826(9.0)	1452(10.7)	1601(12.6)	1778(9.2)	2908(10.2)	2473(9.3)	1373(9.4)	1820(9.6)		1.18
West Bangal	3(0.01)	5(0.02)	8(0.03)	7(0.05)	4(0.02)	5(0.02)	8(0.02)	5(0.01)	2(0.01)	2(0.01)	17	-3.97
Uttara Khand	361(1.0)	444(2.3)	498(2.47)	387(3.0)	381(3.0)	426(2.2)	535(1.8)	400(1.5)	223(1.5)	292(1.54)	7	-2.09
Chattisgarh	-	-	3(0.01)	17(0.12)	10(0.07)	18(0.09)	24(0.08)	38(0.14)	13(0.08)	9(0.04)	14	14.72
All India	18519(100)	18527(100)	20140(100)	13546(100)	12691(100)	19267(100)	28361(100)	26356(100)	14538(100)	18912(100)		0.21

CARG (all India): 0.21 percent (2000-01 to 2009-10).

Source: Indian sugar, December, 2010, Vol. No.LX, No. Nine, the Indian Sugar Mills Association, New Delhi.

### COUNTRY-WISE SUGAR EXPORTS

Table. 03 present the country-wise export of sugar from India during 2000-2010. It can be seen that in the year 2001, there are eight receiving countries from India i.e., Bangladesh, Sri Lanka, Pakistan, Portugal, Yemen, Italy, Afghanistan and UK. By 2003 and 2007 the number of countries to which the Indian sugar is exported, increased to twenty. During 2005

there are only two receiving countries from India. It observed that regarding exports are more fluctuations are accrued. By year 2009, Greece emerged as the largest importer (67.2 per cent) of the Indian sugar followed by Belgium (7.3 per cent), Germany (5.9 per cent), Cyprus (4.0 per cent), Spain (3.8 per cent), Latvia (3.6 per cent), Estonia (3.6 per cent), France (3.1 per cent) and Italy (1 per cent).

**TABLE-03.: COUNTRY-WISE EXPORT OF SUGAR FROM INDIA DURING 2000 TO 2009**

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Rank
Afghanistan	430(0.4)	2100(3.7)	-	2496(0.7)	-	-	-	-	-	-	-
Albania	-	-	-	-	-	-	-	3500(1.21)	-	-	-
Bangladesh	25050 (55.4)	12500(22.0)	127737(41.2)	80134(24.7)	13168(27.4)	-	-	2330(8.0)	86531(12.1)	-	-
Belgium	-	10000(17.6)	9000(2.9)	10016(3.0)	8200(17.0)	-	9622(2.5)	-	-	482(7.3)	2
China	-	-	-	-	-	-	-	1300(0.4)	2650(0.3)	-	-
Croatia	-	-	-	-	-	-	-	3195(1.1)	-	-	-
Cyprus	-	-	-	-	-	-	360(0.09)	-	-	264(4.0)	4
Egypt	-	-	-	48883(15.1)	-	-	-	-	-	-	-
Eritrea	-	-	-	-	-	-	-	-	37500(5.2)	-	-
Ethiopia	-	-	-	-	-	-	-	2494(0.8)	21000(2.9)	-	-
Estonia	-	-	-	-	-	-	-	-	-	240(3.6)	6
France	-	210(0.3)	-	-	50(0.1)	-	240(0.06)	6024(2.0)	-	208(301)	8
Georgia	-	-	-	15800(4.8)	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	390(5.9)	3
Greece	-	-	-	-	-	-	3312(0.8)	-	9854(1.3)	4394(67.2)	1
Indonesia	-	-	-	17600(5.4)	-	-	-	-	26000(3.6)	-	-
Iran	-	-	16750(5.4)	-	-	-	-	260(0.08)	35700(5.0)	-	-
Iraq	-	-	-	13125(4.0)	-	-	-	4993(1.7)	-	-	-
Italy	714(0.7)	8547(15.1)	945(0.3)	-	950(1.9)	-	-	-	-	66(1.0)	9
Korea	-	-	1000(0.3)	572(2.4)	156(3.1)	-	-	-	17000(2.3)	-	-
Latvia	-	-	-	-	-	-	-	-	-	240(1.0)	9
Malaysia	-	-	-	21138(6.5)	1534(3.1)	-	-	-	44603(6.2)	-	-
Pakistan	13125 (13.97)	-	64524(20.8)	-	-	-	335782(90.6)	1248(0.4)	-	-	-
Philippines	-	11500(20.3)	-	-	-	-	-	-	-	-	-
Portugal	340 (13.9)	10460(18.4)	-	10788(3.3)	-	10079 (95.5)	10070(2.7)	16350(5.6)	-	-	-
Russia	-	-	20217	-	-	-	-	625(0.2)	-	-	-
Rwanda	-	-	-	43(0.01)	75(0.1)	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	650(0.2)	11432(1.6)	-	-
Senegal	-	-	-	22(0.006)	-	-	-	-	-	-	-
Singapore	-	-	-	3900(1.2)	468(0.9)	468 (4.4)	-	-	-	-	-
Somalia	-	-	-	-	-	-	-	2700(0.9)	19052(2.6)	-	-
Spain	-	525(0.9)	-	3050(0.9)	-	-	-	-	-	254(3.8)	5
Sri Lanka	20550 (21.8)	750(1.3)	44289(14.3)	49462(15.3)	15146(31.5)	-	-	10485(3.6)	21684(3.0)	-	-

Taiwan	-	-	-	-	-	-	-	260(0.08)	-	-	-
Tanzania	-	-	-	430(0.1)	-	-	-	4975(1.7)	260(0.03)	-	-
Venda	-	-	-	910(0.2)	-	-	-	2030(0.7)	-	-	-
UAE	-	-	16887(5.4)	260(0.08)	-	-	-	164937(57.0)	35471(5.0)	-	-
UK	42(0.04)	-	-	-	-	-	-	-	-	-	-
USA	-	-	8140(2.6)	8140(2.5)	7957(16.5)	-	11087(2.9)	9900(3.4)	-	-	-
Yemen	6700 (7.1)	-	-	36443(11.2)	-	-	-	50778(17.5)	23074(3.2)	-	-
Zambia	-	-	-	-	43(0.08)	-	-	-	-	-	-
Total	93951	56592	309489	323212	48033	10547	370473	289034	713759	6538	carg
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	23.3
No of countries	8	9	10	20	12	2	7	20	15	9	

Note: figures in the brackets indicate the percentages to total. Source: Cooperative sugar, December, 2010, Vol.42, No.4, National Federation of Cooperative sugar factories Ltd., New Delhi

**TABLE 1.4**  
**INDIA'S SUGAR BALANCE**

S.NO.	Particulars	For the season		
		2010-2011	2011-2012	2012-2013
1.	Opening stock as on 1 <sup>st</sup> October	100.72	44.00	58.50
2.	Production during the season	145.38	187.50	250.00
3.	Imports	25.00	42.00	5.00
4.	Total availability	271.10	273.50	313.50
5.	Domestic consumption	225.00	215.00	225.00
6.	Exports	2.00	-	10.00
7.	Closing Stock	44.00	58.50	78.50

The above table showing the Exports: India's sugar export balance was nil during 2009-2010 from 0.2 million tonnes in the previous year. The country expects to export in 2010-2011, following a rise in sugar production in 2012-2013, and a projected surplus in 2012-2013 (October 2012-September 2013). Imports: To control sugar prices, the government permitted sugar imports at zero customs duty. For the sugar season October 2011-September 2012, imports were estimated at 42 million tonnes, after taking into account the opening inventory of 1.2 million tonnes of raw sugar. Indian sugar millers cancelled a number of import contracts, owing to a decline in domestic prices, and are unlikely to sign new deals, following expectations of a surge in local output.

The Indian Sugar Industry Protection Act 1932, had brought about some expansion in the sugar industry, but, the production was not sufficient for India, to be self-reliant. The sugar production fluctuated critically, because of the instability of

sugarcane supplies. Policy Resolution was passed on April 16, 1948, under which, the Government has started giving preference to licensing of new sugar factories, in the Cooperative sector. This policy was reemphasized, in all the subsequent industrial policy resolutions. The Indian sugar industry is characterized by the co-existence of Private, Cooperative and Public Sectors. Production is concentrated in Uttar Pradesh, Maharashtra and the three Southern States, viz., Tamil Nadu, Karnataka and Andhra Pradesh. It has tremendous transformational opportunities to meet food, fuel and power needs of the country. Cyclic changes in sugar production in India, considerably have an impact on the world trade, in sugar. The sugar industry is politically sensitive, and so, the Government keeps up the control over its input and output prices.

The table below shows the production of sugar of the world, in India, for the period from 2003-2004 to 2011-2012.

**TABLE 1.5**  
**SHARE OF SUGAR PRODUCTION FOR THE PAST NINE YEARS**

S.NO.	Period	Production in 000' M.Ts.	
		World	India
1.	2003-2004	130557	18511
2.	2004-2005	141949	18528
3.	2005-2006	148362	20145
4.	2006-2007	147266	13546
5.	2007-2008	141364	12691
6.	2008-2009	152175	19267
7.	2009-2010	166347	28364
8.	2010-2011	166347	28364
9.	2011-2012	161712	14539

#### Findings & Conclusion:

Using time series data of 10 years ranging from 2000-01 to 2009-10, the study tries to assess the economic performance of Indian sugar industry in view of capacity utilization measured econometrically. The major findings of the paper are:

First, the trend in growth rate of capacity utilization follows a decelerating path during the post reform period as there was a sharp decline in average capacity utilization rate in post-reform period as compared to pre-reform period.

Secondly, annual average growth rate of capacity output shows steep upward trend but actual output grows at a much slower rate than capacity output resulting declining growth rate in CU.

Thirdly, the liberalization process is found to have its significant negative impact on capacity utilization since there is a fall in average growth rate of capacity utilization during the post-reform period.

Fourth, the empirical findings suggest that there exist considerable variations in the capacity utilization rates over years within same industry.

Finally, it is noticed from our results that capacity utilization is more sensitive to the extent of capital deepening of the sugar sector.

In order to utilize its capacity fully and run efficiently, the sugar mills within the industry should get uninterrupted supply of raw sugar cane uniformly throughout the seasons and the government should ensure the supply of raw inputs. There is a need of coordinated and concerted effort for appreciation and consolidation of the needs of the consumer, farmer, processor and to address to various above issues if India has to attain the glory of self sufficiency and attain the status of net exporter and an important significant player in the international market.

There is an urgent need to improve in productivity both in terms of yield as well as sugar contents and recovery by adopting better harvesting practices and close coordination of sugar mills with farmers. It has been estimated that better farming and harvesting practices could result upto 1.0% improvement in extraction which can lead to 10% increase in production. Therefore, mills and farmers to work together to improve yield and extraction through better harvesting in order to become internationally competitive - i.e. cost effective and quality producer.

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