CHAPTER - II

HISTODY & GROWTH OF THE SUGER INDUSTRIES

2.1 INTRODUCTION

India is a one of country in which more than 70 % population is dependent upon agricultural production. In India there are Wheat, Sugar Cane, Rice, Cottan main crops. Sugar cane is one of the important agricultural production by which we produce sugar which is very useful food in our daily meal. We use sugar manly in Tea,Coffy. Here in India the sugar is going to be produced by the Co-operative factories and also by private factories. There are two another byproducts of sugarcane one is Khandsari and other is Gur. There were in India in 1930-31, 29 factries in operation as against there were 126 factries in operation in the year of 1935-36. At the begining of the first five year plan 1951-52 140 factries have produced 14,74,000 tonnes of sugar in the average duration of 132 days. In present year of 1991-92 in India 392 factries have produced 1,34,05,000 tonnes with average duration of 172 days which is arround the 95% more than the production of sugar in the year of 1951-52.

In India 18 states are engaged in production of sugar by the sugar cane. In 1990-91 out of 385 sugar factries in India 105 are in operation in Uttar Pradesh and on Second number Maharashtra having 97 sugar factries. In 1990-91 out of 385 sugar factries in India 220 factries were in Co-operative sector. Out of 220 Co-operatice factries were in India 93 factries were in Maharashtra. It shows that the co-operative movement in Maharashtra is most prograssive.

2:2 SUGAR INDUSTORY IN INDIA

2:2:1 HISTORY :-

Few sugar factries were established in India at the time of pre-second world war under the co-operative basic i.e. in the year of 1933. An effective starting point for the co-operative sugar industries was provided by the establishment of co-operative sugar factories at Pravaranager in Maharashtra. During the first 5 year plan period licences were granted to establish 13 co-operative sugar mills in Bombay, and 3 in Punjab. During the second plan period 24 licences were issued.

2:2:2 MEMBERSHIP :-

The following figure shows the growth of sugar cooperative. From 53 co-operative units out of a total of 200 sugar factories in 1965-66 to 188 in a total of 1611 in 1976-77 and in 1990-91 out of total units of 325-220 units were in co-operative sector. The quantity of cane consummed by the sugar co-operatives increased from 9.10 million tonnes in 1965-66 to 42 million tonnes in 1976-77. The share of sugarco-operatives in the countries total output has increased

from 26.6% to 40% during the same period.

In 1961-62 to 1976-77 about 92% of the members of cooperative sugar factories were grower. In 1976-77 out of 1035613 members 937393 were growers.

TABLE NO : 2:2:1

CO-OPERATIVE SUGAR FACTORIES : COMPOSITION OF MEMBERSHIP.

ITEMS	1961-62	1965-66	1967-68	1972-73	1976-77
Societies Growers Other	10809 178236 11771	11170 273297 11498	12209 320955 12751	14230 597795 22983	17229 937393 80991
TOTAL	200816	295965	345915	635008	1035613

(Source: Co-operative in India by Dr. B.S.Mathur)

The Indian sugar industry which witnessed phenomenal progress during the period 1932-36 as a result of the grant of protection, suffered a setback durring the period 1935-37 and 1950-51.

A new era ushered in for the Indian Sugar Industry is may 1952 as developed and regualtion of this industry came under the control of the Government of India for the first time in its history. Before 1952, the state governments, particularay of Uttar Pradesh and Bihar, where the sugar industry was mainly concentrated, exercilsed control under own ligislation. Under the Industries Act (Development and

regulation) of 1951, regulation of the sugar industry was brought under the control of Central Government.

All the 138 sugar factories existing before 1952 were registered under this Act. New sugar factories were established there after under licences granted by the Central Government from March 1970, the sugar industry, along with other industries has been permited to expand without a licence provided that the value of the fixed assets of a units after expansion does not exceed Rs. 5 Crores and provided further that the aggregate value of the substaintial expansion, whether in one stage or more than one stage, does not exceed Rs. 1 Crore.

Specific programmes for the development of the sugar industry have been incorporated in the five year plans. Durring the period 1952-53 to 1959-60, 30 factories were setup. Since then upto 28th February 1973, 67 more factories have been established. The statewise breakup of the 97 factories is presented in Table No.2:2:2.

It appears from Table No.2:2:2 that outof 97 factories setup after 1951-52, 78 were established in tropical region and 19 in sub-tropical region. Thus the expansion of this industry durring last two decates has been mainly in the tropical region. Out of 97 factories, more than 33% were setup in Maharashtra.

Another important feature of post 1952 development has

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been the setting up of sugar factories largly in the cooperative sector, due to the Government policy of giving preferance to co-operatives in the matter of licencing. As a result of this policy, 79 new sugar factories were established in the co-operative sector. Durring the initial period of its development, the Indian sugar industry was established almost intirely in the Joint Stock Sector with practically nil or very insignificant Government assistance. But now applications from Joint Stock Companies for licences were considered only for areas where co-operatives could not be orgnised. In all 18 Joint Stock Factories were setup durring this period. Of these, one factory became co-operative latter. Two other Joint Stock Factories also changed in to co-operatives.

2 : 2 : 3 SUGAR PRODUCTION :-

The requirement of the sugar is rapidily increasing due to increase in population, improvement in the standard of living and change in the dietetic habits of the people. The need has, therefore, been felt for gradually increasing the production of sugar so as to keep pace with the requirements. The planning commission had made estimate of sugar requirements for the different five year plans and targets were fixed for sugar production accordingly. The targets and total installed capacity in the sugar industry at the end of the first, the second, the third, the fourth, the fifth, the sixth and the seventh five year plans, are given in Table NO.2:2:4.

In the First, Second and Third plan periods, the targets of installed capacity could not be reached. In the Fourth plan also, there had been short fall in this regard, upto the end of the season 1971-72, the installed capacity was only 39 lakh tonnes. It increased to 43 lakh tonnes by the end of the Fourth plan. This mears that during the Fifth plan period a capacity of 22 lakh tornes would have to be added.

The yearwise production of sugar in different states from 1960-61 to 1990-91 is shown in Table No. 2:2:3 and 2:2:4. It appears from these tables that, although the installed capacity had been below the target in each of the First three five year plan periods, sugar production, had, however reached the targets. In 1955-56 nearly 18.92 lakhs tonnes of sugar was produced against the target of 20.30 lakh tonnes. In 1960-61, the production was 30.28 lakh tonnes as against the target of 25.40 lakh tonnes. In 1965-66 production was 35.32 lakh tonnes where as the target was 35.60 lakh tonnes. In 1979-60 productior was 39.48 lakh tonnes as

against the targets of 47.00 lakh tonnes. Similarly in 1984-85 production was 61.42 lakh tons whereas the target was 60 lakh tons. The sugar industry achieved the target of production dispite its low installed capasity because of longer duration in certain years.

The sugar Enquiry Commission (1974) has the drawn up the statewise targets, for increasing the installed capacity and production of sugar by the end of 1978-79 and 1985-86 the rate of increase has to be 4.5 lakh tons per year. To achieve this rate of production, the daily installed cane crushing capacity has to be increased from 3.16 lakh tons in 1971-72 to 4.441 lakh tons by 1978-79 and 6.24 lakh tons by 1985-86. The number of factories which was 229 in 1971-72 was expected to increase to 289 by the end of the fifth plan and to 366 by the end of 1985-86.

2 : 2 : 4 GROWTH OF THE SUGAR INDUSTRY:

The sugar industry has grown steadily. The following indicaters will bring cut this trend clearly.

The area under the ealtivation has increased from 1.707 million hectere in the year 1950-51 to 3.40 million hectore in 1989-90. The total sugar production starting from 1.101 million tons in 1950-51 has gone up to 10.98 million tons in 1989-90. The reasons for this growth in sugar production has

been firstly, the increase in the <u>ruled</u> of cane per hectore increasing from 40.5 tons per hectore in 1950.51 to 65.04 tons per hectore in 1989-90 and secondly, the porcentage of cane production going to sugar factories increasing from about 16% in 1950-51 to about 50% in 1989-90.

TABLE NO. 2:2:2

STATEWISE NUMBER OF NEW SUGAR FACTORIES ESTABLISHED FROM 1952-53 TO 1973

SR. NO.	STA	ΓE		NUMBER PRIVATE	OF FACTOR	IES. Total	
				SECTOR	SECTOR		
1.	TROPICAL	REGION-	A.P.	4	6	10	~~~~~~
2.			GUJARAT	Veran	8	8	
3.			KERALA	~	2	2	
4.			MAHARASHTRA	1	33	34	
5.			KARNATAKA	2	7	Ģ	
6.			PONDECHERY	1	- 244	1	
7.			TAMIL NADU	7	7	14	
			TOTAL : -	15	63	78	
В.	SUB-TROP.	REGION-	ASSAM	and and the set of the set	1	1	. when the
9.			BIHAR		1	1	
10.			HARYANA		2	2	
11.			M.P.	****	1	1	
12.			ORISSA	-	1	1	
13.			PUNJAB	1	4	5	
14.			RAJASTHAN		1	1	
15.			U.P.	1	5	6	
16.			WEST BENGAL	1		1	
			TOTAL :-	3	16	19	
	GRAND TO	TAL :-		18	79	97	-

TABLE NO.:-2:2:3

STATEWISE	SUGAR	PRODUCTION	IN INDIA
	1		

	w 1 1 1	(IN FO	UR DECATES)	(i	n 000 tonnes)
Sr.N	O. STATE	1960-61	1970-71	1980-81	1990-91
1.	ANDRA PRADESH	183	267	263	701
2.	ASSAM	7	7	5	8
3.	BIHAR	385	293	194	413
4	GUJARAT	28	84	332	753
5.	HARYANA	79	83	103	312
6.	KERALA	10	16	17	Ģ
7.	MADHYA PRADESH	36	38	17	128
8.	MAHARASHTRA	523	1015	2085	4213
9	KARNATAKA	121	205	371	1032
10.	ORISSA	3	7	10	37
11.	PANDECHERY	19	18	21	63
12.	PUNJAB	43	48	50	384
13.	RAJASTHAN	18	13	12	38
14.	TAMILNADU	124	299	430	126415
15	U.P.	1727	1299	1224	3654
16.	WEST BENGAL	16	9	4	6
17.	NAGALAND			4	4
18	GOA	·***		4	8
	ALL INDIA	3021	3740	5147	13405

(SOURCE- CO-OP. SUGAR, SUGAR INDUSTRY)

The above table indicates that growth in sugar production in India decatewise. Table shows that in first two decates there were 16 states engaged and in last two decates 18 states are engaged in sugar production. Total sugar production in 1960-61 was 30,21,000 tonnes, in 1970-71 37,40,000 tonnes, in 1'980-81 51,47,000 tonnes and in 1990-91 it is 1,34,05,000 tonnes. There is increase of sugar production from 1960-61 to 1990-91 at 343%. Only last decate sugar

production has been increased by more than 200%.

In sugar production Maharashtra state is on top level as compaire to other states in India. Maharashtra has produced sugar at 17%, 27%, 40% and 31% in 1960-61,70-71,80-81 and 1990-91 respectively, following the U.P. state in sugar production. Goa, Nagaland, Assam, Kerala and West Bengal states are less sugar producing states. Their sugar production is less than 10,000 tonnes. In 1990-91 Maharashtra produced 42,13,000 tonnes and U.P. produced 36,54,000 tonnes of sugar outof 1,34,05,000 tonnes sugar production in all India.

TABLE NO -2:2:4

TARGETS AND ACTUAL PRODUCTION OF SUGAR IN DIFFERNT PLAN PERIODS (in lakh tonnes)

YEAR	Target Capacity	Licensed Capacity	Actual installed capacity	Shortfall in the annual sugar produc- tion capacity	Sugar Produc- tion
1955-56					
End of first plan period 1960-61	d 20.30	18.00	17.77	-2.53	18.92
End of second plan perio	od 25.40	28.84	24.77	-0.63	30.28
End of third plan period 1973-74	d 35.60	43.38	29.31	-6.29	35.32
End of fourth plan perio	od 53.00	56.00	43.00	-10.00	39,48
End of fifth plan perio	d 60.00	70.00	59.91	~0.09	58.40
End of sixth plan perio	d 80.00	96.20	68.81	-11.12	61.42
End of seventh plan per	iod 96.00		**	was	

(Source - Sugar Industry -R.S.Singh)

From the above table it seems that there actual installed capacity is low than target capacity. But in first three five year plans sugar production is more than installed capacity. And latteron sugar production is less than actual installed capacity. In every plan except first five year plan period, licensed capacity is more than targer capacity. In 6th five year plan shortfall in annual sugar production capacity by 11.12 lakh tonnes is highest in all six five year plan period. Then it followed by 4th plan, there shortfall in the annual sugar production capacity is by 10.00 lakh tonnes. In 5th fiev year plan, there is less shortfall in annual sugar production capacity by 0.09 lakh tonnes, this plan period was of only 5 years, Fourth plan period is of 8 years and Sixth plan period is of 6 years. It seems that when there is plan period of only 5 years there only the sugar industry achived the target of production dispite its low installed capacity because longer duration in certain years.

But table shows that in first six plan period actual sugar production is increased from 18.92 lakh tonnes at the end of first plan period (1955-56) to 61.42 lakh tons at the end of 6th plan period.

2 : 2 : 5 EXPORT OF SUGAR :-

From the following table we can see that countrywise export of sugar from India in a study period.

TABLE NO -2:2:5

COUNTRY-WISE EXPORT OF SUGAR FROM INDIA IN STUDY PERIOD

((111	r wi	III©⊃	·)

COUNTRY	1985	1986	1987	1988	1989	1990	1991 (P)
EGYPT							31,600
INDONESSIA		-					74,129
MALDIVES	1,000	600	400				
NEPAL	10,723	15,684	6,500		NAR		
SHRI LANKA			· · · ·	***		-	91,950
TURKEY						- seten	13,000
U.K.	10,000	10,000	10,000	 .		***	
U.S.A.	17,700	11,800	6,450	4,900	7,843	12,176	15,208
WEST GERMANY		yát.		10,000			
YEMEN	1004	Ven	~~~				12,000
HOLLOND					10,000	~~~	
BELGIUM	****	~~	~~	~~~	***	10,000	10,000
JORDAN	- 444-					****	34,300
LIBYA	-s.						13,900
TOTAL :-	39,423	38,,084	23,350	14,900	17,843	22,176	2,96,087

(P)-Provisional Source - Co-operative Sugar April 93.

In Table No-2:2:5 shown that country-wise export of sugar from India in tonnes. In last seven years India has exported sugar to 14 countries. Mainly sugar has been exported to U.S.A., Shri Lanka and Indonessia. India has exported highest tonnes of sugar in 1991 of 2,96,087 tonnes. In 1991 sugar has been exported to 9 countries. The sugar export has been increased from 39,423 tonnes in 1985 to

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2,96,087 tonnes in 1991, it is at percent of <u>650%</u>. India is exporting sugar continuesuly to U.S.A. from 1985 to 1991, it is 76,077 tonnes.

2 : 2 : 6 NUMBER OF FACTORIES :-

Following table shows the number of sugar factories under co-operative sector and Total and increase in it with the study period (state-wise) in India.

TABLE NO -2:2:7

STATE-WISE NUMBER OF SUGAR FACTORIES IN INDIA

ALL INDIA	186	342	194	354	196	357	203	365	212	377	220	385	224	392
West Bengal		1	~~~	2		2		1	~~~	1		1		2
U.P.	28	101	29	102	30	104	30	103	31	104	31	105	31	105
Tamil Nadu	11	24	12	25	12	25	12	27	1 3	30	14	31	1.0	3)
Rajasthan	1	3	1	3	··in	2	1	.3	1	2	1	3	1	3
Pondiechery	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Punjab	6	10	7	11	9	13	9	13	Ģ	13	15	17	15	18
Orissa	2	3	2	3	2	3	~1	5	4	5	J	.1	4	5
Nagaland		1	-044	1		1		1	- 2000	1		1	•••	1
Maharashtra	80	88	84	91	85	90	90	95	9 2	96	9 3	97	94	90
M.P.	3	8	3	8	3	8	3	8	3	8	3	8	3	8
Kerala	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Karnataka	13	22	14	24	14	25	14	26	15	27	15	27	15	27
Harvana	7	8	7	8	7	8	- 7	8	7	ŝ	Ģ	10	10	11
Guiarat	13	13	12	12	11	11	11	11] 4	14	11	11	14	14
Gna	1	1	1		1	1	1	1	1		1		1	
Bihar	.بلد مبت	23	100. 100.	26	 	27	,	27	1944 1944	28	 مند	28		25
	1	 1	20	2	2	2	~ ~ ~		20	00 0	2	ාය. ඉ	20	 2
Andhra Dradoch*	19	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1 🛱	~~~~~	1 🛱	~	1 7	 م.>	10		17	 ເອ	10	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Cop-	-Tot	Cop-	-Tot	Cop-	-Tot	Cop-	-Tot	Cop-	-Tot	Cop-	-Tot	Cop	o-Tot
STATE	1985	5-86	1986	5-87	1987	7-88	1988	3-89	1989	9-90	1990)-91 	199:	1-92
STATE	1984	5-86	1094		198-	7-88	1986	2-80	1980		190/)-Q1	1.00	1-92

* Two plants of Nizam (Shakarnagar) are taken as one factory.

(Source - Co-op. Sugar Apil 1993)

Above Table No.2:2:6 indictes that there is constant increase in number of co-operative sugar factories in case of some states. But in case of some states there is no change in number of co-operative sugar factories. In case of Bihar, Nagaland and West Bengal, there is no any one co-operative sugar factory. Total numbers of sugar factories have gone up from 342 in 1985-86 to 392 in 1991-92. Number of co-operative sugar factories has increased from 186 in 1985-86 to 224 in 1991-92. It means that in last 7 years study period total number of sugar factories increased by 14% but number of sugar factories incrreased by 20%. In respect of total number of sugar factories (co-operative and private) U.P. stands for highest with 105 sugar factories and Maharashtra follow it by 99 sugar factories in 1991-92; but in case of co-operative sugar factories Maharashtra stands first with 94 co-operative sugar factories and U.F. followait with 31 co-operative sugar factories. In Assam, Coa and Gujarat state there is no any one sugar factory uncer Private Secto. When 18 states are engaged in producing sugar in Irdia out of total sugar factories 50% sugar factories have been established in two states, Maharashtra and Uttar Pradesh and 50% centared in remaining 16 states. In case of co-operative sugar industries in India near about 42% factories are centralised in Maharashtra. It shows that Maharshtra is on top in India in respect of co-operative sector.

2 : 2 : 7 IMPORTS AND CONSUMPTION OF SUGAR :-

With the help of following table we can see the Imports, Consumption and also Exports of sugar from India in study period, from 1985-86 to 1991-92.

TABLE NO -2:2:7

STATEMENT SHOWING FACTORIES IN OPERATION, OPENNING STOCKS, PRODUCTION, IMPORTS, CONSUMPTION AND EXPORTS OF SUGAR FROM INDIA (1985-86 TO 1991-92)

(in lakh tonnes)

Season	No.of facto ries in opr ation	- Carry over - in the be- ginning	prode- tion	Imports	Total available Supply	Consu- mption	Export
1985-86	342	18 09	70 16	16 26	104 51	97 17H	0 36
1986-87	354	21 02	85 02	9 51	115 55	87 45#	0.22
1987-88	357	27 88	91 10	0 71	119 69	93 01#	0.28
1988-89	365	26.40	87.53	····	113.93	98.60	0.33
1989-90	377	15.00	109.90	2.41	127.31	100.57	0.36
1990-91	* 385	26.38	120.47		146.85	106.26	2.18
1991-92:	* 392	38.41	134.05	***	172.46	111.63	5.61
	1						1

*Provisional.

#Figures includes consumption of imported sugar.

(Sugar - Co-operative sugar April 93.)

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From 1985-86 to 1991-92 number of factories in operation by 50, in 1985-86 there were 342 sugar factories in operation in India, it has gone up in 1991-92 to 392. Production of sugar has been increased from 70.16 lakh tonnes in 1985-86 to 134.05 lakh tonnes in 1991-92. When the number of sugar factories has been increased by 15%, production of sugar has been increased by 91%. Opening stock in the begining of 1985-86 was 18.09 lakh tonnes, it increased to 38.41 lakh tonnes in 1991-92, which shows that with increase in production of sugar, opening stock also increasing. Import of the sugar from outside totally nill in last two years. The sugar imported from outside country was 16.26 lakh tonnes in 1985-86, there sugar exported by India was only 0.36 lakh tonnes it has also been increased to 5.61 lakh tonnes in 1991-92, consumption of sugar is also constantly increasing.

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TABLE NO-2:2:8

STATE-WISE CONSUMPTION OF SUGAR IN INDIA

(in '000'tonnes)

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STATE	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91@*
Andhra Pradesh	372	483	518	534	581	616
Assam	169	145	176	212	204	190
Bihar	362	461	512	516	525	523
Delhi	101	138	172	206	217	233
Gujarat	526	622	635	783	768	804
Haryana	195	244	310	368	357	378
Karnataka	354	416	444	454	478	499
kerala/Laccadives	313	406	399	429	439	446
Madhya Pradesh	204	471	524	564	599	640
Maharashtra	1105	1252	1482	1604	1582	1710
Orrisa	117	157	168	173	200	187
Punjab	396	456	552	616	581	660
Rajastan	262	351	414	462	485	539
Tamil Nadu	464	602	633	664	681	726
Uttar Pradesh	850	1062	1208	1370	1384	1487
West Bengal	412	497	593	674	715	709
Others *	179	202	209	231	261	279
ALL INDIA	6581 1	# 7965(a	a) 8949(b	») 9860	10057	10626

@ - Provisional.

* - Including Jammu & Kashmir, Himachal Pradesh, Manipur,
Trpura, Pondechery/Kariikal/Maha Yanam, Goa/Daman/Div,
Nagaland, Chandigarh, Mizoram, Meghalaya, Andaman & Nicobar,
Sikkim/Bhutan and Defence requirements.

- Excluding consumption of 17.32 lakh tonnes imported sugar. (a)- Excluding consumption of 7.80 lakh tonnes imported sugar. (b)- Excluding consumption of 3.52 lakh tonnes imported sugar. (Source - Co-Operative Sugar, April 93.)

From the above table we can see that, out of total sugar consumpted in overall India every year near about 1/5 sugar has been consumpted only by Maharashtra. In study period sugar consumption in Maharashtra is always more 11,00,000 tonnes every year. In 1985-86 out of total consumption in India as 65,81,000 tonnes 11,05,000 sugar was consumpted by Maharashtra. In Delhi state sugar consumption is lowest as compaired to all other 15 states shown in table. And also there some states having so consumption of sugar in compaired to other countries.

2 : 2 : 8 SUGAR PRODUCTION IN STUDY PERIOD:-

We can see that statewise sugar production by cooperative sugar factories in India in study period from 1985-86 to 1991-92.

TABLE NO- 2:2:9

STATEWISE SUGAR PRODUCTION BY CO-OPERATIVE SUGAR FACTORIES IN INDIA (in '000'tons)

STATE	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92*
A.P.	161	223	211	194	197	273	284
Assam	2	5	10	9	11	8	9
Bihar	~~					***	****
Goa		52	8	10	64	95	76
Gujarat	557	576	578	578	667	832	753
Haryana	69	154	148	152	176	222	312
Karnataka	262	298	383	352	386	452	492
Kerala	6	8	5	12	13	8	8
M.P.	18	22	35	22	27	49	55
Maharashtra	2210	2270	2691	2550	3808	4010	4091
Nagaland		-	-			¥~~	
Orissa	13	20	26	16	14	21	35
Punjab	87	152	144	173	179	221	303
Pondechery	23	28	24	30	17	19	26
Rajasthan**	5	10		8	6	8	12
Tamil Nadu	349	356	352	424	357	463	495
U.P.	345	624	654	544	719	680	943
Co-Op.	4113	4754	5270	5073	6586	7274	7838
Private	2903	3748	3840	3680	4404	4773	5567
Total	7016	8502	9110	8753	10990	12047	13405

* Provisional.

** Includes sugar recovered from sugar beet.

(Source - Co-Operative Sugar April 93)

Table shows that in last seven year sugar production by co-operative sugar factories has gone up by 3725000 tonnes which is at the percentage of 90% and also sugar production by private sugar factories is also increased from 2903000 tonnes to 5567000 tonnes at 91%. From the above table it seems that durring the study period of seven years outof total sugar production near about 60% sugar has been produced by co-operative sugar factories. In sugar production by cooperative sugar factories Maharashtra ranks first with production of more than 50% out of total sugar production by co-operative factories in India. It follows the U.P. state in producing sugar by co-operative sugar factories. And on thierd number is Gujarat state in producing sugar by cooperative factories. In some year Gujarat ranks second and U.P. follows it. In 1991-92 out of total production of sugar by co-operative sugar factories in India of 7838000 tonnes Maharashtra has produced 4091000 tonnes, U.P. produced 943000 tonnes and 753000 tonnes. And in 1990-91 out of total production of 7274000 tonnes Maharashtra produced 4010000 tonnes, Gujarat produced 832000 tonnes and on thierd number U.P. produced 680000 tonnes. In Bihar and Nagaland there is no tonne of sugar production by co-operative sugar factories because there is no any one sugar factory under co-operative sector. In 1985-86 in Goa also there was no any one sugar factory under the co-operative sector.

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2 : 2 : 9 CANE CRUSHING :-

TABLE NO - 2:2:10

STATE WISE CANE CRUSHED BY CO-OPERATIVE SUGAR FACTORIES IN INDIA (IN '000'TONNES)

STATE	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92*
A.P.	1834	2555	2502	1942	2087	2999	2996
Assam	27	67	133	110	130	101	102
Bihar		-		***			
Goa	67	93	111	95	101	97	171
Gujarat	5086	5280	5661	5039	6084	7619	6763
Haryana	784	1612	1506	1568	1816	2394	3225
Karnataka	2520	2991	3714	3301	3707	4412	4616
Kerala	65	95	59	135	139	96	88
M.P.	202	256	377	230	290	487	559
Maharashtra	19671	20631	24810	23040	35506	37244	36516
Nagaland				-		-	
Orrisa	136	226	338	167	156	234	393
Punjab	893	1545	1419	1795	1926	2516	3313
Pondechery	251	316	292	317	197	229	292
Rajastan *	52	115		88	68	90	124
Tamil Nadu	3591	3609	3795	4156	3834	5175	5402
U.P.	3697	6710	7416	5934	8149	7755	10390
West Bengal							
ALL INDIA	38876	46101	52133	47917	64190	71448	74930
BY PRIVATE							
FACTORIES	29690	39101	41800	37730	46968	50890	59020

TOTAL	68566	85202	93933	85647	111158	122338	133950

* Provisional.

** Including sugar beet crushed.

(Source - Co-Operative Sugar)

From the above table it seems that in Bihar, Nagaland, West Bengal there is no at least one co-operative sugar

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factory, hence table shows nil tonnes of cane crushed. The quantity of cane crushed is constantly increasing every year. It increased from 38876000 tonnes in 1985-86 to 74930000 tonnes in 1991-92, it is more than 92%. From 1985-86 to 1991-92 near 45% of total cane crushed in India has been crushed by factories under private sector and remaining balance of 55% has been crushed by industries under co-operative sector. In 1985-86 out of total cane crushed in India 68566000 tonnes, 38876000 tonres has been crushed by co-operative factories and 29690000 tonnes cane has been crushed by factories under private sector. And in 1991-92 out of 133950000 total cane crushed in India 74930000 tonnes cane has been crushed by co-operative factories and 59020000 tonnes cane has been crushed by private sugar factories.

Maharashtra state is on highest in cane crushing and then it followed by Uttat Pradesh and Gujarat. In 1991–92 in Maharashtra 36516000, in U.P. 10390000, and in Gujarat 6763000 tonnes cane has been crushed.

STATEW	STATEWISE DURATION OF CRUSHING SEASONS													
	IN INDI	(CO-OF	P. & PRIVA	ATE)		(IN	DAYS)							
STATE	1985-86	86-87	87-88	88-89	89-90	90-91	91-92							
A.P.	88	120	127	107	108	148	142							
Assam	39	88	88	68	81	62	61							
Bihar	94	102	103	101	<u>99</u>	116	147							
Goa	64	79	103	81	92	74	130							
Gujarat	149	172	203	171	167	205	175							
Haryana	93	163	155	159	175	205	193							
Karnataka	109	130	149	135	134	156	177							
Kerala	50	71	51	93	83	60	61							
M.P.	66	100	120	80	90	129	165							
Maharashtra	132	128	156	133	200	193	176							
Nagaland	38	61	82	72	74	63	67							
Orissa	53	86	132	70	35	78	94							
Punjab	122	182	128	135	146	124	126							
Pondechery	191	218	186	176	131	166	206							
Rajasthan	54	88	46	61	80	99	135							
Tamil Nadu	194	184	182	192	165	203	205							
U.P.	98	161	172	136	171	164	193							
West Bengal	13	45	43	66	9	70	68							
ALL INDIA	116	141	152	133	158	166	172							

TABLE No :- 2:2:11

* Provisional

(Source - Co-operative Sugar April 93)

Above table No. 2:2:11 shows that the statewise duration of crushing seasons in India. Here duration of crushing season is shown in days. It is from 1985-86 to 1991-92 and also average of factories working under co-operative and private sector together. In some state crushing days are near 200, in a year. In pondecherty, Gujarat, Haryana { Tamil Nadu states the crushing days are always more than other states.

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Assam & Kerala having less days of crushing season near to 60 days. But average days of crushing season in India is increasing yearwise. In 1985-86 crushing days were only 116 and it increased to 172 day's in 1991-92. In last 7 year it increased by 48 %.

TABLE NO - 2:2:12

STATEWISE DURATION OF CRUSHING SEASONS

IN INDIA (CO-OP & PRIVATE)

(In days)

.

	STATE	!	1985-86	:	86-87		87-88	1	88-89	!	89-90	1	90-91	 	91-92	*	ł
	A. P	1 1	88	!	120	1	127	;	107	1	108	1	148	;	142		1
	ASSAM	1	39	!	88	!	88	1	68	1	81	!	62	;	61		1
	BIHAR	;	94	!	102	!	103	!	101	;	99	;	116	1	147		;
	GOA	ł	64	1	79	1	103	ł	81	1	92	ł	74		130		1
	GUJARAT	1	149	! !	172	;	203	ł	171	:	167	;	205	;	175		1
	HARYANA	ł	93	1	163	ļ	155	!	159	!	175	1	205	1	193		1
	KARNATAKA	!	109	!	130	1	149		135	!	134	!	156		177		! [
	KERALA	1 1	50	;	71	!	51	;	93	l	83	1	60	:	61		1 1
	M.P.	1 1	66	1	100		120	!	80	;	90	!	129	!	165		1
•	MAHARASTRA	 \	132	!	128	1	156	!	133	1	200		193	!	176		1
	NAGALAND	!	38		61	;	82	1	72	;	74	!	63		67		1
-	ORISSA	1	53	1	86	1	132	1	70	1	35	1	78	1	94	•	1
-	PUNJAB	1	122		182	;	128	!	135		146	1	124		126		1
	PONDECHERY	!	191	1	218	1	186	:	176	1	131	;	166	!	206		I I
	RAJASTHAN	1	54	1	88	1	46	1	61	1	80	;	99	;	135		1
-	TAMILNADU	;	194		184	1	182	1	192	1	165	:	203	:	205		1
-	U.P.	!	98	!	161	!	172	1	136	;	171	1	164	!	193	,	ł
-	W.BENGAL	1	13	!	45		43		66	1	9	;	70		68		1
	INDIA	1	116	1	141	;	152	ł	133	1	158	!	166	:	172		1
		_										-					-

* Provisional

(Source - Co-operative Sugar April 93.)

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Above table No.2.2.12 shows that the statewise duration of crushing seasons in India. Here duration of crushing season is shown in days, It is from 1985-86 to 1991-92 and also average of factories working under co-operative and private sector together. In some state crushing days are near 200 in a year. In Pondechery, Gujarat, Haryana, & Tamil Nadu states the crushing days are always more than other states, Assam & Kerala having less days of crushing season near to 60 days. But average days of crushing season in India is increasing yearwise. In 1985-86 crushing day's were only 116 and it increased to 172 day's in 1991-92. In last 7 year it increased by 48%.

2.3 HISTORY AND GROWTH DF SUGAR FACTORIES IN MAHARASHTRA

In the international field, India in many respects can boast of its sugar industry in maharastra. Sometime back comparing the achievement of the sugar industry in many countries with maharastra showed that Maharastra with its average sugarcane yield of go tonnes per hectore, occupied 7th possition among the 9th sugarcane producing countries, which produce every little sugarcane so far as a sugar recovery is concerned, Maharastra's average recovery of 11% is next to only to Aust-alion sugar factories, which achieve an average recovery of 14%. The yield of sugarcane per

Table : 2.3.1

SUGAR PRODUCTION, CANE YIELD, PRODUCTION CAPACITY AND AREA UNDER SUGARCANE IN MAHARASHTRA AND INDIA

AREA UNDER SUGARCANE		Lakhs CANE YIELD Hector		CAI Cai	NE PRODU Pacity N	CTION .Tonnes/	SUGAR Lakh	SUGAR PRODUCTION Lakhs M.Tonnes			
YEAR	INDIA	MAHARA- Shtra	*	INDIA	MAHARA- Shtra	*	INDIA	NAHARA- Shtra	INDIA	MAHAR Shtra	A- ¥
1965-66	28.36	1.71	6.02	1239.9	199.79	8,85	43.7	64.20	35.32	7.80	23.08
1970-71	25.85	2.15	8.31	1263.6	147.70	11.68	45.0	68.70	37.40	10.55	28.20
1975-76	27.57	2.14	7.76	1426.0	191.67	13.43	45.07	89.50	42.62	16.06	37.68
1980- 8 1	26.67	2.56	9.59	1542.48	235.91	15.29	51.8	9 2.30	57.48	20.85	36.27
1985-86	28.32	2.65	9.25	1716.8	237.00	13.80	157.0	89.40	70.16	23.89	34.05
198 8-89	33.73	3.54	10.48	2046.25	255.77	12.46	-	81.10	87.52	26.29	30.03
1989-90	-	3.36	-	-	366.90	-	-	-	109.00	39.20	35.96

Source : Co-operative Sugar

hectore in Australia is come yield per hectore, Maharastra is sugarcane yield per hectare, Maharastra is better than Australia, which is considered to be the worlds best in the matter of sugar recovery hectare, Maharastra with its 11% recovery and to tonnes yield gives to tonnes perhectare. 25 compared to 42 tonnes per hectare in Australia. However in this respect, Hawaii is the worlds topmost, is its average yield is 220 tonnes per hectare and average sugar recovery is slightly less than 11% and thus, its sugar recovery per hectare is of the order of 24 tonnes. But Australia and India 12 months sugarcane crop, whereas Hawaii the sugar yield per hectare per month, Hawaii has 1 tonne, Australia has o.g tonne and Maharastra has 0.8 tonne.

In the matter of technical efficiencies, the results achieved in the Maharastra sugar factories in Austrialia and south Africa, which are considered to be the worlds best. But in the matter of thermal efficiency, Maharastra sugar factories are the best in the world as they not only avoid the use of extraneous feels like coal, furnance, oil etc., but save large quantities of bagasse, even after using it as captive fuel for not only manufacture of sugar but also <u>far</u> the manufacture of other products in the ancillary indus tries. This is as a result of simple every conservation measures adopted by the sugar factories in Maharashatra which is spectacular achievement.

The quality of sugar produced in some of the Maharashatra sugar factories is comparable in appearance with refined sugar produced in other countries.

Thus so far as sugarcane cultivation, sugar manufacture, technical efficiencies and sugar quality are concerned as very efficient producers of sugar in the world. With a little bit of effort, it is quite possible that within a few years, they can emerge on top of the world.

HOW MAHARASHATRA CO-OP. BY PRODUCT INDUSTRIES CAN BE THE WORLDS TOP MOST ?

But, how does the diversification programme of the Maharashatra sugar co-operatives compare with the achievements of other sugar producing countries, so that, in that respect also aspire to become of leader, when we study the wording of the by-product industries in Cuba, Aribean countries, Taiwan, Mexico etc, we come to tonnes that many more useful products are produced form bagasse and molasses, In these countries, bagasse based issues, share holders , furfural, cattle feed plants are working, in addition to what we produce in India. Similarly, they have molasses based citric acid, Oxalic acid, lysine, mon sodium alutamate, Porula yeast, Dextran, plants in addition to what we have in India. There are 2 plants in different countries to produce simultaneously, Acetone Butanot Ethanol from mollases. Some of these countries are planning to have industrial complexed for the integrate ambisation of sugar cane and its by products. These are also known as sugarcane complexes. This means, in the some compound, they have many industries to convert sugar cane and its by products into value added products. These are also known as sugarcane complexes. This means, in the some compound, they have many industries to convert sugar cane and its by products into value added products. These are also known as sugarcane complexes. This means, in the some compound, they have many industries to convert sugar cane and its by-products into value added products. Such complexes have many advantages.

How let us see the achievements of the Maharashtra sugar factories in the matter of utilisation of the by-products, like bagasse and molasses, by setting up industries to convert them into value added products. In this respect also, as compared to other states in India, the achievements of the sugar factories in Maharastra are unquestionably, the best. The statements of the co-operative sugar factories in Maharastra are convinced that the financial viability of the sugar factories based on the by-products, as it would result

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not only in converting they by-products into useful products but also create employment for more people in rural areas and bring down the end cost of sugar too, which is in item of mass consumption. This would also further improve the economic status of the thousands of sugarcane growers attached to each co-operative sugar factory. Realising those advantages, so for 7 small scale paper plants based on saved bagasses have been setup by the Maharastra co-operatives. Also 6 plants for the manufacture of particle boards based on saved bagesses in Maharastra. This is a good achievement. plans are under active consideration for setting up large news print cum-writting and printings papers plants based on bagasse, in suitable locations in Maharastra. There 30 distilleries in Maharastra for the production of alcohol from Molasses. Besides there are 10 plants for the production of chemicals like Acctaldehyde, Acetic acid, Acetic ombydribe, Acetone, Oi-Ethyl oxalate etc. based on ethyl alcohol. Some co-operatives have set up cattle feed plants based on molasses and other in gredionts. The carbon dioxide produced as a by-product in the carbon distilleries is compressed into cylinders and used for making soda-water. One plant for the production of Ory-Ice has been recently setup. Plants to manufacture Athyle Benzone based on "Alberve Technology"

developed by the National Chemical Laboratory are likely to be set up. Thus the co-operative sugar factories in Maharastra have already diversified their activities to setup of fairly good number of by product industries. About 10 cooperative sugar factories in Maharastra have both bagasse based and molasses based industries, which is creditable.1

In Maharastra state, out of 165 insect and noninsect species of pests occured in sugar cane, 11 are cavesing severe damage to comes under drought conditions, Shoot borer [Chilo infus catellus and sesuila informs] intermade borer (C. Indicus), scale insect (M.glomerats), termites (Terpues S.P), white fly (A. Barodensid), white grub (Holotriclvia Serata), rat (B. bengalensis) and in some pocekets pyarilld (P.Purpusilld). The damage caused by shoot borer, intermode borer, white fly and rat is seriously notable under drought conditions. The attack of shoot borer can reach up to 100% in North and central Maharastra, while white fly attack will reach at its maximum peak in Khandesh, Maharastra and Vidarbha region, Rat problem will noticed in severe throughout the state.

SUGAR STOCK IN MAHARASTRA

Total balance of sugar bagged, Dispatches and stocks of co-operative sugar factories was as on 1-3-1992 of

39,14,829 in India. Out of this 20,45.529 to balance was in total Maharastra. It was the 51% approximately of total balance. Total production in Maharastra was 81,29.000 to in the year 1990-91 as compare to total production of sugar in India was 1,93,21.000 t in the year 1990-91. The 15,82.000 tonnes was consumed by Maharastra in the year 1989-90 and total consumption in India was 1,00,57.000 tonnes.2

Table : 2.3.2

PROFILE OF SUGAR INDUSTRIES IN MAHARASHTRA STATE

Particulars	Items	1989-90	1990-91	1991-92	1992-93
No.of Sugar Factories		96	97	99	105
Private Sector		4	4	5	4
Co-op. Sector		92	93	94	101
Total Crushing Capacity	Lack M.T.				
.	per day	1.67	1.94	2.00	2.25
No.of Sugar Factories	Lack M.T.	96	97	9 9	105
Sugarcane Yield	Lack M.T.	376.18	384.16	387.58	328.20*
Average Sugar Production	M.T./Hect.	88.77	86.52	84.98	83.00*
Total Cane Crushed	Lack M.T.	366.18	382.84	376.50	298.36
Total Sugar Production	Lack M.T.	39.23	41.19	42.13	33.68
Average Sugar Recovery	%	10.71	10.76	11.19	11.31
Average Crushing days	-	224.00	210.00	188.00	149.00
Use of Crushing Capacity Average time lag in	%	89.34	90.61	92.30	88.04
hours	%	17.30	15.54	13.62	15.04

* Provisional

(Source- 'Sahakar Vishwa' sahakar saptah & Diwali-93)

The above table show the profile of sugar industries in Maharastra state. from 1989-90 total number of sugar industries as 96 has goneup to 105 in 1992-93 and the number of co-operative sugar factories has goneup from 92 in 1989-90 to 101 in 1992-93. In four year crushing capacity increased from 1.67 lakh m.tonnes per day to 2.25 lakh M.tonnes per day. Sugar production has decreased from 39.23 lakh M.tonnes to 33.68 lakh M.tonnes in 1992-93. Crushing capacity has used at nearer to 90%

Table : 2.3.4

SUGAR PRODUCTION, CANE YIELD AND SUGAR RECOVERY IN

MAHARASHTRA STATE AND OTHER COUNTRIES (1986-87)

Sr. No.	NAME OF COUNTRY	AREA UNDER SUGARCANE (Lac.Hect.)	CANE PRO- DUCTION (M.T./Hect.)	SUGAR PR 1986-87	ODUCTION 1987-88	SUGAR RECOVERY
1.	CUBA	13.50	49.6	73.74	73.00	12.00
2.	AUSTRALIA	3.10	82.0	34,44	35.10	13.67
3.	S.AFRICA	4.07	68.68	21.65	22.35	12.28
4.	BRAZIL	40.40	61.60	82.74	84.58	
5.	MEXICO			39.86	38.22	-
6.	CHINA	10.60	53.90	58.12	48.20	***
7.	AMERICA	3.20	84.00	51.28	57.13	12.00
8.	INDONESHIA	3.00	85.00	21.98	23.17	-
9.	THAILAND			36.37	27.05	***
10.	INDIA	30.79	60.40	85.01	91.10	9,98
11.	MAHARASHTRA	2.80	85.40	23.88	27.95	10.98

(Source- Report on conference of Director of Co-op. Sugar)

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From the above table it seems that Australia has highest recovery of 13.67% and India has lowest recovery of 9.98%. Maharastra has high recovery of 10.98% as compare to India. In Maharastra there is high cane production per hector.i.e, 85.4 M.tonnes per hector, and India average cane production is 60.4 M.tonnes per hector. Brazil has acquired high area under sugar cane of 40.40 lakh hector, following India has 30.79 lakh hector area under sugar cane. India has produced 91.10 lakh tonnes sugar in 1987-88, which is highest in world.

Table : 2.3.5

STATEMENT SHOWING STATEWISE SUGAR & SUGARCANE PRODUCTION

Sr. No.	STATE	AREA UNDER SUGARCANE (Lac.Hect.)	CANE YIELD (Lac./Ton.)	SUGARCANE YIELD (M.T./Hect.)	SUGAR PRODUCTION (Lac.Ton.)	SUGAR RECOVERY %
1. A. 2. BI 3. GU 4. HA 5. KA 6. M. 7. MA 8. OR 9. PU 10. RA 11. TA 12. U. IN	P. HAR JARAT RIYANA RNATAKA P. HARASHTRA INJAB JASTHAN LMILNADU P. IDIA	1.64 1.27 0.94 1.31 2.35 0.63 3.14 0.47 0.93 0.15 2.21 17.79 33.73	116.37 54.83 79.07 65.80 184.46 22.93 255.00 32.00 55.73 6.86 237.68 893.71 2046.25	71.20 43.20 84.40 50.20 78.30 36.40 81.10 68.10 56.30 42.60 107.60 50.20 60.70	5.07 3.19 5.78 2.80 7.03 0.63 26.29 0.17 2.45 0.14 10.04 23.01 87.52	10.12 9.16 11.28 9.88 10.53 9.56 11.05 9.39 9.62 8.87 10.10 9.48 10.22

& AREA UNDER SUGARCANE (1988-89)

From the above table No.2.3.5 It seems that total under sugarcane in India is 33.75 lakh hectore, area outof more than 50% area is from Uttar Pradesh state i.e. this 17.79 lakh hectore. It followed by Maharastra with having 3.14 lakh hectore area under sugar. In 1988-89 M top U.P. Produced 893.71 lakh tonnes sugarcane and it follows Maharastra with 255.00 lakh terms sugarcane yield and on third number is Tamil Nadu by producing 237.68 sugarcane. In sugarcane yield per hectare Tamilnadu is on highest level. It has sugarcane yield per hectare is 107.6 M.tonnes then it followed by Gujarat state with 84.40 M.tonnes sugarcane yield per hectare and on third number is Maharastra with 81.10 M.tonnes sugarcane yield per hectare. In 1988.89 out of total sugar production in India of 87.52 lakh tonnes 30% sugar has produced by Maharastra of 26.29 lakh tonnes. It followed by U.P state by producing 23.01 lakh tonnes sugar and then it followed by Tamilnadu by producing 10.04 lakh tonnes of sugar. It 1988-89 average sugar recovery was 10.22% In case of sugar recovery Gujarat was on top with 11.28% sugar recovery, following Maharastra with 11.05% sugar recovery.

Table indicates that in all sense Maharastra state is in first two number, Which shows that Maharastra is top in sugar production as against otherstates those which are engaged in production of sugar.

Table : 2.3.6

AREA UNDER SUGARCANE, SUGAR AND SUGARCANE PRODUCTION AND PRODUCTION CAPACTIRY IN MAHARASHTRA AND INDIA.

AREA UNDER SUGARCANE Lakh / Hoctor				SUGARCANE YIELD Lakh M.Tonnes			PRODUCTIO M. Tonnes/	N CAPACITY Hectores	SUGAR PRODUCTION Lakhs M.Tonnes				
YEAR	INDIA	MAHARA- Shtra	\$	INDIA	MAHARA- Shtra	- 1	INDIA	MAHAR A- Shtra	INDI	IA MAHA Shtr	RA- \$ A		
1965-66	28.36	1.71	6.02	1239.9	199.79	8.85	43.70	64.20	35.32	7.80	23.08		
1970-71	25.85	2.15	8.31	1263.6	147.70	11.68	45.00	68.70	37.40	10.55	28.20		
1975-76	27.57	2.14	7.76	1426.0	191.67	13.43	45.07	89.50	42.62	16.06	37.68		
1980-81	26.67	2.56	9.59	1542.48	235.91	15.29	51.80	92.30	57.48	20.85	36.27		
1985-86	28.32	2.65	9.25	1716.8	237.00	13.80	157.00	89.40	70.16	23.89	34.05		
1988-89	33.73	3.54	10.48	2046.25	255.77	12.46	-	81.10	87.52	26.29	30.03		
1989-90	-	3.36	-	-	366.90	-	-	-	1 0 9.00	39.20	35.96		

Source : Report on Confference of Director of Co-op. Sugar - Shirol.

As show in table No:2:3:5. in 1965-66 Area under sugar cane in India was 28.36 lakh hectare and in Maharastra it was 1.71 lakh hectare at the 6.02% only. It has increased to 3.54 lakh hectare in Maharastra as compaired to 33.73 lakh hectare in India, it was 10.48%. There is constant in the percentage of area under sugarcane in Maharastra as against in India.

Outof total sugarcane yield in India of 1239.09 lakh M.tonnes, in Maharastra sugarcane yield was 109.79 lakh M.tonnes which was 8.85% comparative to total sugarcane yield in India.

2.4 HISTORY AND GROWTH OF SUGAR FACTORIES IN KOLHAPUR DISTRICT.

In Kolhapur district at present there are 12 factories in working conditions out of these three are registered in first Five year plan, two are registered in second five year plan, four are registered in fourth five year plan, one factory is registered in fifth five year plan and one is registered in sixth give year plan and one is registered in 7th five year plan.

The total production capacity of all sugar factories in Kolhapur district is 37700 Metric tonne per day. Out of 12 Factories 2 factories have highest production capacity to

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Table : 2.4.1

CO-OP. SUGAR FACTORIES IN KOLHAPUR DISTRICT. (1991-92)

Sr.	Name of Factory	Date of	Crushing	Iss	shed Ne	mber	Fixed current	
nu.		establish- ment	- capacity per day	sha	ire	*******		
1.	JAVAHAR	HUPRI	29-01-90	250 0	51730370	12000	65828197	47880 63
2.	CHH.RAJARAN	K . BAVADA	11-04-84	2200	38902161	18130	115580386	184038993
3.	DOULAT	HALKARNI	30-01-70	35 0 0	22245337	11198	176711129	191861275
4.	BHOGAVATI	PARITE	18-10-55	3500	19540436	8419	111174302	269677342
5.	SHRI DATTA	ASURLE-PORLE	23-05-68	1250	45677923	7858	152504083	165185402
6.	DUDHAGANGA VEDAGANGA	BIDRI	10-10-56	3500	18352740	17558	156704074	21778138
7.	PANCHAGANGA	ICHALKARANJI	01-10-55	5000	26294757	18019	297337134	390518046
8.	WARANA	WARANANAGAR	27-09-55	4000	33129855	14394	381487786	427552631
9.	KUMBHI-KASARI	KUDITRE	20-06-60	4000	17493141	17917	180410868	324945680
10	GADHINGLAJ	GADHINGLAJ	12-02-71	2000	23551476	6707	188355936	185952895
11	DATTA-SHETAKARI	SHIROL	09-06-69	5000	25667224	2 3371	539574318	482829831
12	CHH.SHAHU	KAGAL	12-02-77	1250	21175175	5501	106580414	155019281
		Total		37700	343760605	161072	2471648627	2804147577

Source : Record of Director of Co-operative Sugar - Kolhapur.

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Table : 2.4.2

STATEMENT SHOWING PRODUCTION CAPACITY UTILISATION AND TIME

ACCOUNT DATA FOR 1989-90

Sr.	Name of Factory	f Factory Crush Can	Cane	Cane Sugar S		Sugar \$ Crushing		TIME ACCOUNT						
no.		(TCD)	(M.T.) (Ex.BM)	(White) (QTL)	t Cane	Utilisa- tion	Gross sea- son days	Duration of season	HR Cane Short	S LOST % Nech & Elect	AVAILA Clean	BLE Total		
1.	BHOGAVATI (PARITE)	2000	420278	5 07235	12.04	131.34	150	150	2.60	0.20	3.44	7.43		
2.	CHH.SHAHU (KAGAL)	1250	277128	312710	11.29	138.56	168	176	0.087	0.73	2.02	3.12		
3.	DATTA (ASURLE-PORLE)	1250	240375	239280	09.95	120.18	230	186	13.37	4.52	4.32	25.70		
4.	DATTA (SHIROL)	2500	530813	605655	11.42	132.70	229	224	0.73	3.94	3.43	9. 90		
5.	DAULAT	2000	343652	417791	11.91	102.28	169	165	1.75	2.06	3.84	9.66		
6.	DUDHAGANGA VEDAGANGA	3500	400430	453850	11.33	71.51	161	133	8.24	5.50	3.96	21.88		
7.	GADHINGLAJ	2000	371809	444250	11.88	108.76	172	168	6.29	0.59	1.96	9.66		
8.	KUMBHI KASARI	3000	502046	583580	11.64	104.59	164	156	3.11	3.07	4.62	12.12		
9.	PANCHAGANGA	5000	880196	994590	11.29	110.00	202	189	4.47	4.17	3.80	13.97		
10.	WARANA	4000	623109	811140	11.90	106.34	208	197	1.21	3.10	4.73	12.75		
11.	CHH. RAJARAN	2200	388 537	4282 55	11.02	110.38	276	170	4.90	0.00	3.14	10.65		

Source : Report on Confference of Director of Sugar - Shirol.

5000 M.tonnes per day. These are shri Panchaganga from Ichalkarangi and Datta Shetakari from Shirol. Shri Datta from Panhala taluka have acquired lowest production capacity of 1250 M.tonne per day. as compare to all other 11 factories. There were in 1991-92 161072 productive members of all sugar factories in Kolhapur District. All factories have invested in fixed assets Rs. 2,47,16,48,627 and their current assets amount was Rs. 2,80,41,47,577. In 1991-90 DATTA (Shirol) Factory has highest amount of fixed assets and amount assets of Rs. 53,95,74,318 and Rs. 48,28,29,831 respectively, It is nearly 22% of total fixed assets and 17% of total current assets of all sugar factories in Kolhapur District.

In Kolhapur district 12 co-operative sugar factories had member share capital and Government capital of Rs.34,37,60605. Here we can see that all factories are depend upon to acquire fixed assets out side creditors.

Table No.2:4:2 shows that all factories have used their crouching at more than 100% but <u>me</u> only factory Shri.Dudhaganga-Vedganga has used its crushing capacity at only 71% in 1989-90. Chatrappati Shahu from Kagal has used its crushing capacity at 138% which is highest in all 12 sugar factories in Kolhaour district Average Sugar recovery of co-operative sugar factories in 1989-90 was 11.42% of

cane, Bhogawati factory had highest recovery at 12.04% of cane and lowest was of DATTA (Asurle) at 9.95% In 1989-90 all 11 co-operative sugar factories in Kolhapur district have produced 57,98,336 Qtl. white sugar, out of this 994590 Qty sugar has been produced by PANCHAGANGA which was 17% of total. In 1989-90 DATTA (Asurle) and DUDHAGANGA-VEDGANGA have highest percentage of hours last due to the cane shortage, macanique & Electric fault and clean and Mislenious at the percentage of 25.70% and 21.88 respectively. Shri DATTA (Shirol) factory has worked for 224 days in 1989-90 and has produced 605655 Qty. sugar qt 2500 M.tonne crushing capacity per day.