

*" Experience is valuable in most human endeavour, but the problem of getting a cat down out of a tree is new everytime it arises."*

- Francis Duffy in Room Mate Magazine -

*" Ideas are nobodys property; they belong to whoever expresses them best. "*

- Emilio Cecchi, Taccuni, Milan -

## **CHAPTER VI**

A). DATA ANALYSIS.

B). CONCLUSION & SUGGESTIONS.

## A] DATA ANALYSIS

The sugar cooperative generally function in the interest of its members, particularly, the producer members i.e. the farmers. The five sugar factories under study have registered members under various categories, viz producer members, non-producer members, institutional non-producing nominal members etc. The production strength of the sugar factory depends, *inter alia*, upon the number of producer members. The Sangli Sugar factory [SSF] had the highest number of producer members increasing continuously from 31,372 in 1984-85 to 32,044 in 1988-89 [Table 6.01]. The factory also encourages farmers who are particularly socially 'disabled' to join the cooperative as a producer member.

The number of members who came from the 'Backward' classes increased from 6,264 in 1984-85 to 6,441 in 1988-89, constituting 20 % of the total number of producers member almost right through. [fig 3].

The number of non-producer members declined from 46 in 1984-85 to 44 in 1988 - 89. The case with the 'Institutional non-producer members' was similar with 58 members in 1984-85 and declining by one in the following year and remaining at that right through.

Since the SSF has sugar production as it's main activity there are very few [relatively] nominal members. The factory had 2,004 nominal members in 1984-85, but this number declined to 1,364 in 1988-89. In fact the number of such members had reached a minimum of 1,223 in 1986-87.

**TABLE 6.01**  
**MEMBERSHIP OF SUGAR FACTORIES**

Memberships	PSF Ichal.	DSF Shirol	USF Warana	RSF Walva	SSF Sangli
<b>1984 - 85</b>					
Total Producer	13,003	10,346	9,581	8,659	31,372
B.C. Members *	445	514	183	164	6,264
Non-Producer	521	Nil	17	-	46
Institutional +	96	60	61	115	58
Others	1	1	-	1	-
Nominal	6,772	7,413	23,254	7,526	2,004
<b>1985 - 86</b>					
Total Producer	13,426	10,686	10,087	8,665	31,447
B.C. Members *	454	532	283	164	6,271
Non-Producer	525	Nil	17	-	46
Institutional +	96	65	60	115	58
Others	1	1	-	1	-
Nominal	3,772	6,112	23,882	8,358	1,361
<b>1986 - 87</b>					
Total Producer	13,796	12,054	10,607	8,667	31,777
B.C. Members *	509	755	305	164	6,401
Non-Producer	523	Nil	17	-	45
Institutional +	96	65	60	115	57
Others	1	1	-	1	-
Nominal	4,652	9,026	24,426	8,907	1,223
<b>1987 - 88</b>					
Total Producer	13,848	12,079	NA	8,657	31,886
B.C. Members *	509	781	NA	164	6,415
Non-Producer	520	Nil	NA	-	45
Institutional +	96	65	NA	115	57
Others	1	1	NA	1	-
Nominal	4,372	11,206	NA	NA	1,728
<b>1988 - 89</b>					
Total Producer	13,848	13,661	12,298	8,664	32,004
B.C. Members *	509	781	315	164	6,441
Non-Producer	520	Nil	17	-	44
Institutional +	96	76	60	115	57
Others	1	1	-	1	-
Nominal	4,372	11,271	25,696	NA	1,364

Note : \* Backward Class members are out of Total Producer Members  
+ Non-producer Institutional Members  
NA Data not available.

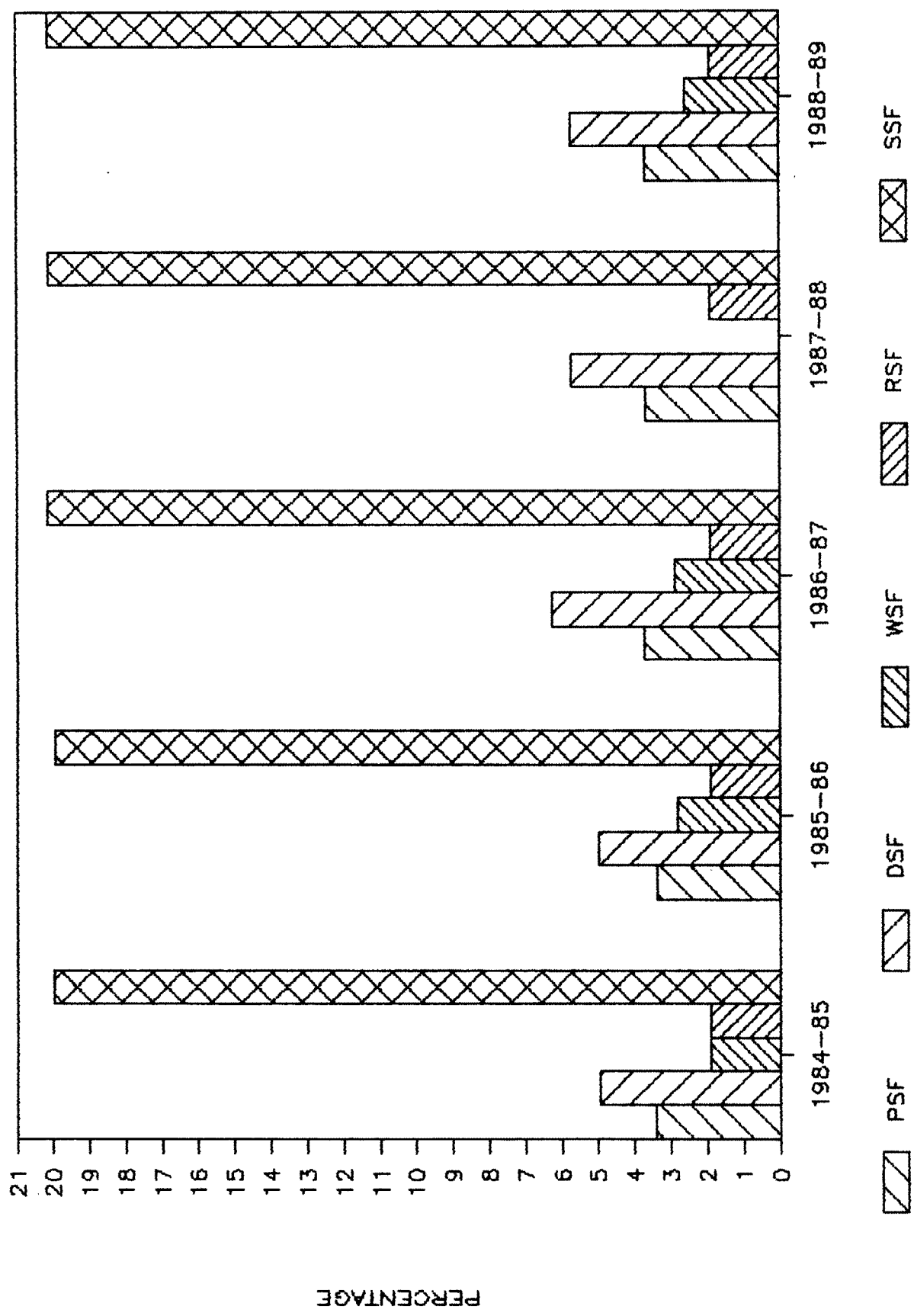
The SSF was followed by the PSF, with respect to the number of the members. The number of members increased continuously from 13,003 in 1984-85 to 13,848 in 1988-89. These were in the producer member category. The number from backward classes increasing from 445 in 1984-85 to 509 in 1986-87 and remained at that level upto 1988-89. This compared to SSF, the number of producer member was relatively insignificant in the PSF (3 %). (Fig. 3). However, the number of non-producer members substantially higher in the PSF remaining around or slightly above the 520 mark. As far as the non-producer institutions are concerned, there were 96 such members right through and one from the 'other' category. There were 6,772 nominal members in 1984-85 and this declined to 4,372 in 1988-89.

The Datta Sugar Factory [DSF], had altogether 10,346 producer members in 1984-85 which increased continuously to 13,661 in 1988-89. The number producer members belonging to the backward classes increased from 514 in 1984-85 to 781 in 1988-89 - roughly 5 % of the total producer members. There were no non-producer members in this factory and the number of institutional members increased from 60 in 1984-85 to 65 in following year and remained same in 1987-88 and further increased to 76 in 1988-89. The number of other members remained one right through. Unlike the PSF and SSF the number of nominal members was fairly high and increased continuously from 7,413 in 1984-85 to 11,271 in 1988-89.

The Warana Sugar Factory [WSF] follows next with 9,581 producer members in 1984-85 and increasing 12,298 in 1988-89. The number of backward class producer members was very insignificant at less than about 2 % and number of non-producer members was also quite insignificant at 17 only right through. So is the case with

**% OF BC MEMBERS TO TOTAL PROD. MEMBERS**

Fig. 3.



non-producer institutional members where the number has remained more or less 60 right through.

A very significant fact about the membership of WSF, is a substantially high number of nominal members which has increased from 23,254 to 25,696 between 1984-85 and 1988-89. This is possible because of the nature of this factory organisation. There were other well established related cooperative societies around WSF.

The Rajarambapu Patil Sugar Factory, Walwa [RSF], had 8,659 producer members in 1984-85 which increased to 8,664 in 1988-89. The number of backward class producer members remained 164 continuously averaging less than 2 % of the total producer members. There were no non-producer members in this factory. The number non-producer institutional members was 115 right through with one from the 'other' category and 7,526 nominal members in 1984-85, which increased to 8,907 nominal members in 1988-89.

The sugarcane for the sugar factories is normally supplied by members and non-members as well as from within the state and outside, from within the area of jurisdiction of factory and from other area. The number of villages normally supply the cane to the factories for processing purposes. The total number of villages supplying the cane to the five sugar factories under study varies from as few as 85 to as high as 224. However, most of the villages lie within the area of jurisdiction of the concerned factory. This is evident from Table 6.02. The highest number of villages serving the factories are from Warana and Sangli factories, where the number ranges from 150 to 224. However, a very distinctive feature that separates these two factories is that the SSF gets almost its entire supply from villages within its jurisdiction, whereas the WSF receives its supply of sugarcane

TABLE 6.02

## SOURCES OF SUGARCANE SUPPLY

Villages	PSF Ichal.	DSF Shirol	WSF Waarna	RSF Walva	SSF Sangli
<b>1984 - 85</b>					
a) From the area	101	97	66	82	150
b) Outside area in M.S.	9	8	125	70	-
c) Outside M.S.	8	6	3	1	-
d) Total	118	111	194	153	150
<b>1985 - 86</b>					
a) From the area	102	97	66	84	150
b) Outside area in M.S.	5	7	155	57	9
c) Outside M.S.	13	9	3	-	-
d) Total	120	113	224	141	159
<b>1986 - 87</b>					
a) From the area	101	97	66	86	150
b) Outside area in M.S.	11	3	109	6	27
c) Outside M.S.	14	10	-	3	1
d) Total	126	110	175	95	178
<b>1987 - 88</b>					
a) From the area	101	97	66	85	150
b) Outside area in M.S.	2	13	120	-	5
c) Outside M.S.	4	9	-	-	31
d) Total	107	119	186	85	186
<b>1988 - 89</b>					
a) From the area	101	97	66	88	150
b) Outside area in M.S.	2	-	107	-	8
c) Outside M.S.	4	6	18	-	52
d) Total	107	103	191	88	210

a) From the area of factory jurisdiction.

b) Outside the area of factory's jurisdiction but within the Maharashtra state.

c) Outside the Maharashtra State.

mainly from villages outside the area of its jurisdiction but from within the state. The number of villages that supply the cane to the SSF and which are from its jurisdiction in Maharashtra is 150 and has remained stable at that level right through to 1988-89.

However from 1986-87 the factory started receiving sugarcane from outside the Maharashtra state and number of such villages have gone up to 52 in 1988-89.

For the WSF, the number of villages supplying the cane from the area of its jurisdiction has remained constant at 66. What changes is the number of villages outside the area of its jurisdiction in Maharashtra. The number of villages supplying cane to PSF was remained almost constant at 101 from the area of its jurisdiction with fluctuation in the villages from outside the area of it's jurisdiction in Maharashtra, and outside Maharashtra.

The total number of villages meeting the needs of PSF has increased upto 1986-87 and thereafter declined to reach 107 mainly because of decline in the villages from Maharashtra and outside.

The DSF faces similar situation with the number of villages supplying the cane from within its jurisdiction remained constant at 97 and the total varying between 103 and 119. There appears to be fair amount of stability in the number of villages supplying the cane to RSF, particularly from the area of its jurisdiction. The number of villages supplying the cane to the factory outside its jurisdiction but within Maharashtra was as high as 70 in 1984-85 but came down 6 in 1986-87 and thereafter to nil. This could perhaps be explained by either the changes in the factory policy or by farmers patronising other factories.

Thus as far as the membership of the sugar factories under study is concerned, SSF has the highest number of members. This factory also has the highest number of producer members both in the total and backward class categories. It is therefore expected that the total area under the cane from the factory as whole would be highest. The area under cultivation as a whole shown in Table



6.03 is divided among members, non-members, from the state and from outside the state. The total area under the from SSF totalled 12,468.88 hectare divided amongst the various categories. The highest proportion of the area under cane for this factory was under member category at 85 % of the total, followed by the non-members whose share in area under the cane for SSF was 12 % followed by 'from state' at 3 %. The area under the cane catering to the needs of Sangli factory was abysmally insignificant at less than 1/10th of 1 percent [for the year 1984-85].

**TABLE 6.03**  
**CATEGORY-WISE AREA UNDER SUGARCANE CULTIVATION**  
**IN 1984-1985.**

[Hectare]						
Factory	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli	Total
Members	7054.26 [24.45]	3492.70 [12.11]	4306.98 [14.93]	3428.26 [11.88]	10,562.35 [36.63]	28,842.55 [100]
*	66.28	73.17	72.12	66.80	84.71	73.98
Non Memb.	3431.04 [42.14]	1171.14 [14.38]	787.64 [ 9.67]	1248.35 [15.33]	1,504.41 [18.48]	8142.58 [100]
*	32.34	24.53	13.19	24.34	12.08	20.89
From the State	108.26 [05.91]	13.72 [00.75]	861.93 [47.07]	453.35 [24.78]	393.92 [21.51]	1831.18 [100]
*	01.02	00.29	14.43	08.84	03.14	4.70
Out of State	42.84 [28.90]	95.87 [56.73]	15.27 [ 9.04]	0.80 [ 0.47]	8.20 [ 4.85]	162.98 [100]
*	0.48	2.01	0.26	0.02	0.07	0.43
<b>Total</b>	<b>10,636.40</b> (27.30) 100	<b>4773.43</b> (12.24) 100	<b>5971.82</b> (15.32) 100	<b>5128.76</b> (13.16) 100	<b>12468.88</b> (31.98) 100	<b>38,979.30</b> (100) 100

Note : The figures in parentheses are percentages to the row Totals.

\* The figures are percentages to the column Total.

The area under the cane cultivation for PSF totalled 10,636.4 hectare of which 66 % belonged to the members, 32 % to non-members, 1 % within the state and roughly half of the 1 % from out side the state. For the DSF, the total area under the cane cultivation came to 4773.43 hectare in 1984-85 of which 73 %, 25 %, 0.03 % and 2 % belonged to members, non-members, from within the state and from outside the state respectively.

The WSF's farmer members had a fairly high proportion of the total area under the cane production 1984-85 [72 %] belonging to the members about 14% each area under the cane cultivation belonged to non-members and farmers from within the state. Very small proportion, about 15 hectares of the total came from outside the state.

The contribution made by the farmers to the total area under cultivation with respect to members and non-members of RSF was 67 % and 24 % respectively. The area belonging to the farmers within the state totalled 453 hectare amounting to 9 % of the total. The total area under the cane cultivation for all the five factories put together amounted to 38,979 hectares, a large proportion of which owned by members. The share of each factory in the total for the members show that 37 % belonged to SSF followed by 24 % to PSF, 15 % to WSF, 12 % to DSF and RSF each.

As far as non-members are concerned the total of 8143 hectare, 42 % belonged to PSF factory, 19 % to Sangli and roughly 15 % each to DSF and RSF and rest to WSF.

For the year 1985-86, the total area under the cane cultivation for the five factories together amounted to 37,921 hectare of which 72 % belonged to members, 21 % to non-members, 6 % to from within the state and 1 % from outside the state. [Table 6.4]. Here again the share of the Sangli factory was the highest

as far as the members are concerned at 39 % followed by PSF 24 %, WSF 15 %, DSF 12 % and RSF 11 %. The area under the the cane cultivation coming under the jurisdiction of five factories owned

**TABLE 6.04**  
**CATEGORY-WISE AREA UNDER SUGARCANE CLUTIVATION**  
**[1985 - 86]**  
**[Hectare]**

Factory	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli	Total
Members	6,491.45	3,220.54	4,038.16	3,041.14	10,568.38	27,359.67
	[23.73]	[11.77]	[14.76]	[11.12]	[38.62]	[100]
*	68.57	63.48	65.24	63.17	85.39	72.15
Non Members	2,830.21	1,425.39	705.03	1,470.28	1,544.85	7975.76
	[35.77]	[18.01]	[ 8.91]	[17.78]	[19.52]	[100]
*	29.90	28.10	11.39	29.23	12.48	20.87
From the State	69.13	28.34	1,421.72	366.08	253.88	2139.15
	[03.23]	[01.32]	[66.46]	[17.11]	[11.87]	[100]
*	00.73	00.56	22.97	7.60	02.05	5.65
Out of State	76.21	398.92	24.60	-	10.15	509.88
	[14.95]	[78.24]	[ 4.82]	-	[ 1.99]	[100]
*	0.80	7.86	0.40	-	0.08	1.34
Total	9467.00	5073.09	6189.51	4814.50	12377.26	37921.36
	(24.96)	(13.38)	(16.32)	(12.69)	(32.64)	(100.00)
	100	100	100	100	100	100

Note : The figures in parenthesis are precentages to the row totals.

\* The figures are percentages to the coloumn totals

five factories owned by non-members totalled 7,976 hectare with PSF, DSF and RSF accounting roughly for 29 % each and the rest was

WSF and SSF. As far as the land under the cane cultivation from within the state is concerned, the WSF had highest amount, 66 % and share of PSF and DSF factories were fairly negligible. There is very little contribution from outside the state, however, here DSF has high proportion [78 %]. Followed way behind by PSF at 15 % rest being negligible.

The total area under the cane cultivation for the five factories in 1986-87 had increased to 41,826 hectares, an increase to slightly more than 10 % over the previous year [Table 6.05]. This was mainly because of a fairly substantial increase in the area under members category. The share of members land in the total continued to remain very high for the Sangli factory 83 %. Whereas for the other four factories the members land under the cane cultivation as a proportion to the total land under the cane

TABLE 6.05  
CATEGORY-WISE AREA UNDER SUGARCANE CULTIVATION  
[1986 - 87]

[Hectare]						
Factory	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli	Total
Members	7303.00	3707.48	4708.54	3340.36	10,695.90	29,755.22
	[24.54]	[12.46]	[15.82]	[11.23]	[35.95]	[100]
*	66.53	65.30	65.44	64.66	83.49	71.14
Non Members	3331.00	1498.67	1871.92	1680.54	2,064.78	10,446.91
	[31.88]	[14.35]	[17.92]	[16.09]	[19.76]	[100]
*	30.34	26.40	26.02	32.53	16.12	24.98
From the State	175.00	11.90	614.85	42.40	20.02	864.17
	[20.25]	[01.37]	[71.15]	[ 4.91]	[ 2.32]	[100]
*	01.59	00.21	8.55	00.82	00.16	2.07
Out of State	168.00	459.24	-	102.40	30.00	759.64
	[20.01]	[62.91]	-	[14.03]	[00.04]	[100]
*	1.53	8.09	-	1.98	0.23	1.87
Total	10,977.00	5677.29	7195.31	5165.70	12810.70	41,826.00
	[26.24]	[13.58]	[17.20]	[12.35]	[30.63]	[100]
*	100	100	100	100	100	100

Note : The figures in parenthesis are percentages to the row totals.  
\* The figures are percentages to the column totals

cultivation hovered around 66 % with slight variations from 32 % for the non-members. In fact for the 1985-86 the contribution made by those from the state and outside the state category was very very negligible. The trends almost in the similar lines continued in the year 1987-88 with the Sangli factory witnessing the movement of the cane growing area coming to a greater extent under member category. A similar movement is also decreasing in all other factories particularly the PSF. The total area under the cane cultivation for the factories for the year 1987-88 came down slightly 40,485 hectare [Table 6.06]. In fact, the

TABLE 6.06

CATEGORY-WISE AREA UNDER SUGARCANE CULTIVATION  
IN 1987 - 88

[Hectare]

Factory	PSF Ichal.	DSF Shirol	VSF Warana	RSF Walva	SSF Sangli	Total
Members	7254.00 [24.03]	3836.68 [12.71]	5083.76 [16.84]	3327.53 [11.02]	10,682.24 [35.39]	30,184.21 [100]
*	70.39	68.78	66.74	62.55	91.57	74.56
Non Members	2984.00 [35.41]	1519.30 [18.03]	1084.30 [12.87]	1971.28 [23.40]	865.91 [10.28]	8424.79 [100]
*	28.96	27.24	14.23	37.05	7.42	20.81
From the State	53.00 [03.42]	11.12 [00.71]	1449.38 [93.42]	20.00 [ 1.29]	17.19 [ 1.15]	1551.40 [100]
*	00.51	00.20	19.03	00.40	00.16	3.83
Out of State	14.00 [ 4.31]	211.14 [65.11]	-	-	99.12 [30.57]	324.26 [100]
*	0.14	3.78	-	-	0.85	0.80
Total	10,305.00 [25.45] [100]	5,578.24 [13.78] [100]	7,617.44 [18.82] [100]	5,318.81 [13.40] [100]	11,655.17 [28.81] [100]	40,484.66 [100] [100]

Note : + The figures in parenthesis are percentages to the row totals.

\* The figures are percentages to the column totals

following year witnessed much much larger form in the area under the cane cultivation for all the factories put together [Table 6.07]. The figure for this is 35,979 hectare. This is mainly due to the area for the members and non-members decreasing for all the factories. However, the share of the members in each factory's total tended to go up for almost all the factories, with DSF making a substantial improvement to 92 % in the member category.

**TABLE 6.07**  
**CATEGORY-WISE AREA UNDER SUGARCANE CULTIVATION**  
**[1984 - 85]**

[Hectare]

Factory	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli	Total
Members	6096.00 [21.32]	4916.93 [17.21]	4137.31 [17.98]	3023.18 [10.59]	9389.79 [32.87]	28566.13 [100]
*	75.79	91.51	67.61	63.47	92.02	
Non Member	1943.00 [33.41]	45.62 [ 0.78]	1293.11 [22.23]	1742.07 [29.95]	792.32 [13.62]	5816.12 [100]
*	24.16	0.85	17.20	36.53	17.76	
From the State	-	-	1117.05 [98.04]	-	22.30 [ 1.96]	1139.35 100
*	-	-	14.70	-	0.22	
Out of State	4.00 [ 0.83]	410.71 [88.19]	51.02 [10.95]	-	-	465.73 100
*	0.05	7.64	0.67	-	-	
Total	8043.40 [22.35] 100	5373.26 [14.93] 100	7598.82 [21.11] 100	4768.25 [13.25] 100	10204.93 [28.36] 100	35978.93 [100] 100

Note : + The figures in parentheses are percentages to the row totals.

\* The figures are percentages to the column totals

The cane produced in the area of the factory jurisdiction for the five factories under study was 40,23,521 tonnes in 1984-85 [Table 6.08]. The highest production was in the area of jurisdiction of the PSF where it was 14.3 lakh MT followed by DSF where it was 10.0 lakh MT, SSF 8.2 lakh MT, WSF 3.4 lakh MT and RSF 3.79 MT. The respective share of these factories in the total production of the cane in the area of the jurisdiction was 36 %, 25 %, 21 %, 10 %, and 9 %.

TABLE 6.08

TOTAL SUGARCANE PRODUCTION IN THE AREA OF FACTORY JURISDICTION

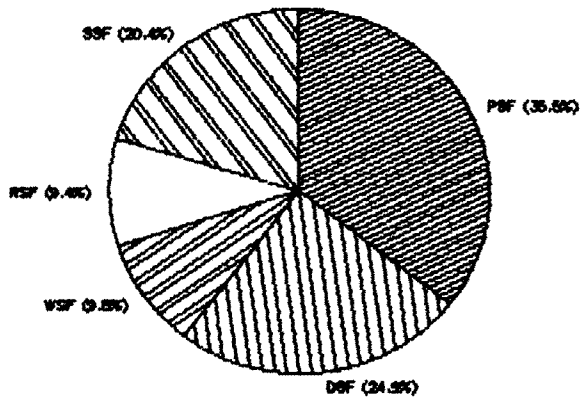
(Tonnes)

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli	Total
1984 -85	14,30,000 [35.55]	10,00,000 [24.86]	3,94,021 [ 9.80]	3,79,500 [ 9.43]	8,20,000 [20.80]	40,23,521 [100]
1985 -86	13,33,000 [32.68]	11,00,000 [26.96]	2,94,259 [ 7.21]	4,12,200 [10.10]	9,40,000 [23.05]	40,79,459 [100]
1986 -87	15,65,000 [31.50]	13,95,700 [28.10]	5,17,704 [10.42]	4,89,100 [ 9.84]	10,00,000 [20.14]	49,67,504 [100]
1987 -88	18,91,500 [35.33]	14,50,000 [27.08]	5,49,440 [10.26]	5,23,120 [ 9.77]	9,40,000 [17.56]	53,54,060 [100]
1988 -89	16,00,000 [36.12]	10,00,000 [22.58]	5,06,100 [11.42]	3,74,989 [ 8.46]	9,50,000 [21.42]	44,31,089 [100]

Figures in the parentheses are percentages to the row totals.

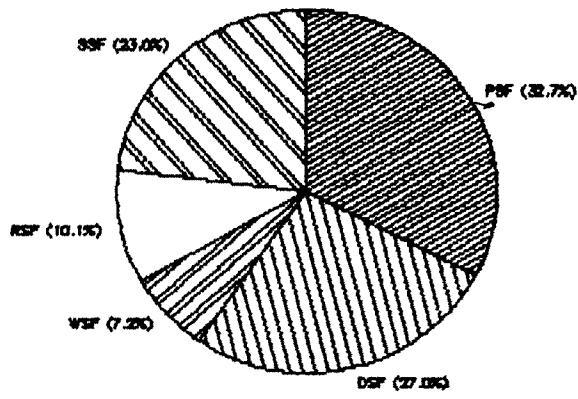
The total production of the cane under the jurisdiction of each factory increased slightly in the following year, 1985-86 to

CANE PRODUCTION IN FACTORY AREA B4-B5



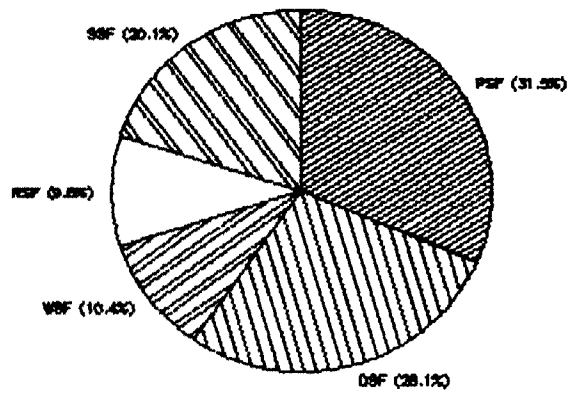
4-a

CANE PRODUCTION IN FACTORY AREA B5-B6



4-b.

CANE PRODUCTION IN FACTORY AREA B6-B7

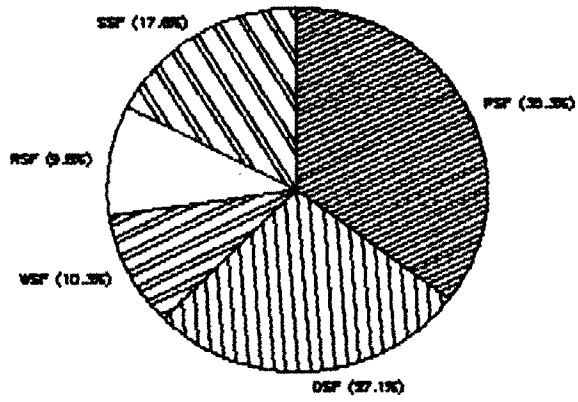


4-c

Fig. 4.

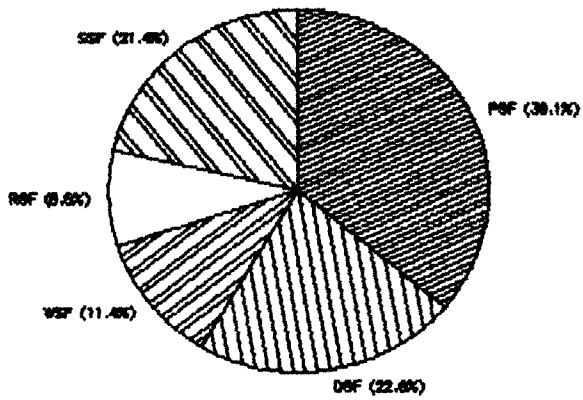


**CANE PRODUCTION IN FACTORY AREA 87-88**



4-d.

**CANE PRODUCTION IN FACTORY AREA 88-89**



4-e.

40,79,459 tonnes. The PSF being the leader with 33 % of the total production, followed by DSF 27 %, SSF factory 20 %, RSF factory 10 % and the WSF factory 7 %.

There has been an increase in the total the cane production in 1986-87 at 49,67,504 tonnes to 1987-88 at 53,54,060 tonnes and a substantial drop in 1988-89 to 44,31,089 tonnes SSF all other factories saw a fall in the production of the cane in the area of their jurisdiction. However, whatever the total production, the rankings of the sugar factories in terms of the total cane production from 1986-87 has remained more or less same, in relative terms, with the PSF leading, followed by DSF, SSF, WSF and RSF. (Fig.4).

The average production of the cane per hectare for each factory for the period of 1984-85 to 1988-89 is given in table 6.09. The average cane production for PSF for 1984-85 was 79.22 MT per hectare which increased to 89.39 MT per hectare in 1987-88, but then declined to 69.27 MT per hectare following year(Fig.5). It can be seen from the Fig.5 that the average yield per hectare obtained by the members of PSF has been almost continually much higher than the 'others', except in 1987-88(Fig. 5d). As far as DSF is concerned the trends are similar. The average cane production per hectare in DSF has increased from 72.25 MT per hectare in 1984-85 to 85 MT per hectare in 1987-88 with the following year witnessing a substantial fall to 72.49 MT per hectare. In the WSF area, the performance is mixed. There had been fluctuations in the output of the cane per hectare both with respect to members and others and as a consequence with respect to the average. In the year 1984-85 and 1985-86 the yield obtained by 'others' is substantially greater than that obtained by members.(Fig. 5 a&b).

**TABLE 6.09**  
**AVERAGE SUGARCANE PRODUCTION**

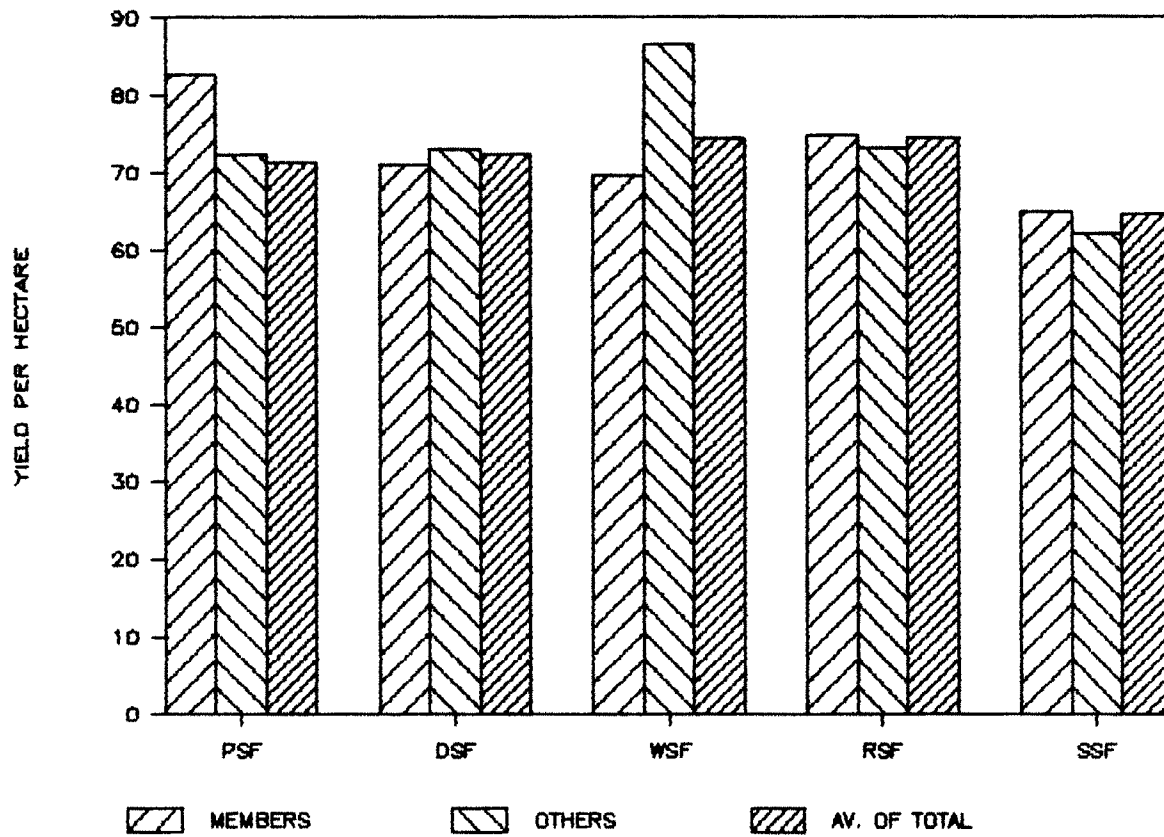
[ M T per Hectare ]

Year	Category	PSF Ichal.	DSF Shirol	USF Warana	RSF Walva	SSF Sangli
1984-85	a) Members	82.70	71.70	69.60	74.72	64.98
	b) Others	72.40	73.00	86.56	73.25	61.94
	c) Av. of Total	79.22	72.25	74.32	74.37	64.52
1985-86	a) Members	80.08	74.24	61.16	80.57	70.00
	b) Others	76.80	70.25	82.59	78.03	85.28
	c) Av. of Total	79.05	72.78	68.60	79.63	72.02
1986-87	a) Members	86.27	81.79	79.03	88.62	74.64
	b) Others	86.12	87.09	77.66	84.52	72.23
	c) Av. of Total	86.22	83.46	78.69	87.17	74.25
1987-88	a) Members	87.39	84.97	80.58	87.57	72.07
	b) Others	94.14	85.04	77.37	85.57	72.08
	c) Av. of Total	89.39	84.99	76.47	86.82	72.07
1988-89	a) Members	71.62	72.43	72.88	74.65	69.93
	b) Others	63.48	73.23	59.49	69.95	71.91
	c) Av. of Total	69.27	72.49	70.54	72.93	70.08

However, after the 1985-86, the performance has changed and the yield per hectare of the members has been higher than that of the 'others'. (Fig. 5c,d,e). The RSF farmers have performed better with the differences in the yield between the members and 'others' being fairly small. The average yield per hectare has ranged between a minimum of 73 MT per hectare in 1988-89 to a maximum of 87 MT per hectare in 1986-87. The performance of the members with

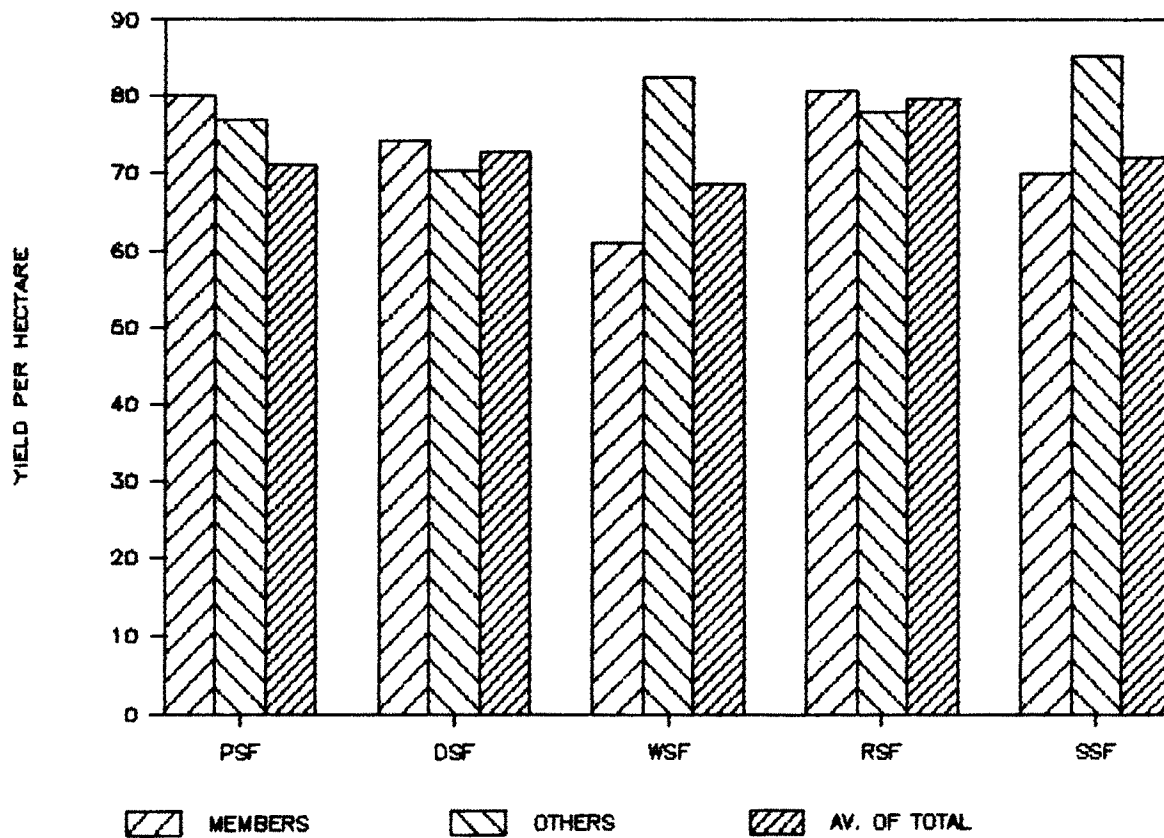
5-a.

**AVERAGE SUGARCANE PRODN. (MT/ha) 84-85**



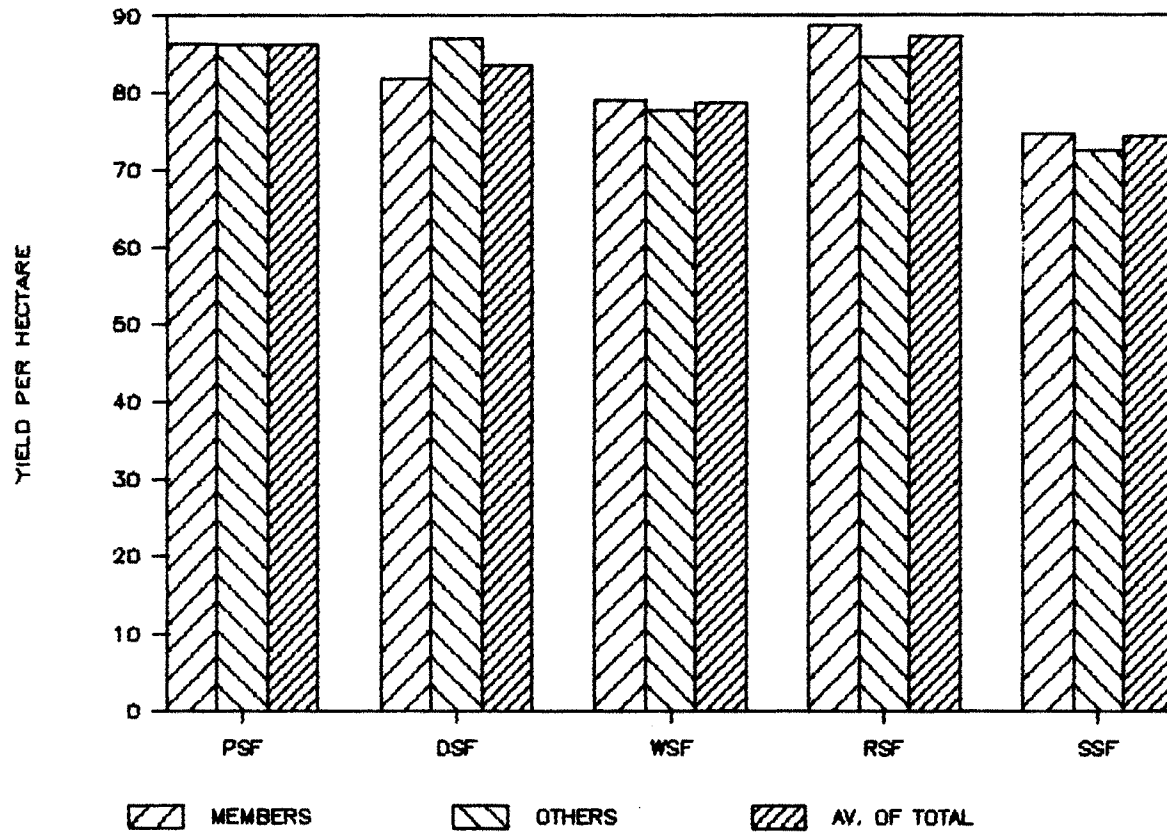
5-b.

**AVERAGE SUGARCANE PRODN. (MT/ha) 85-86**



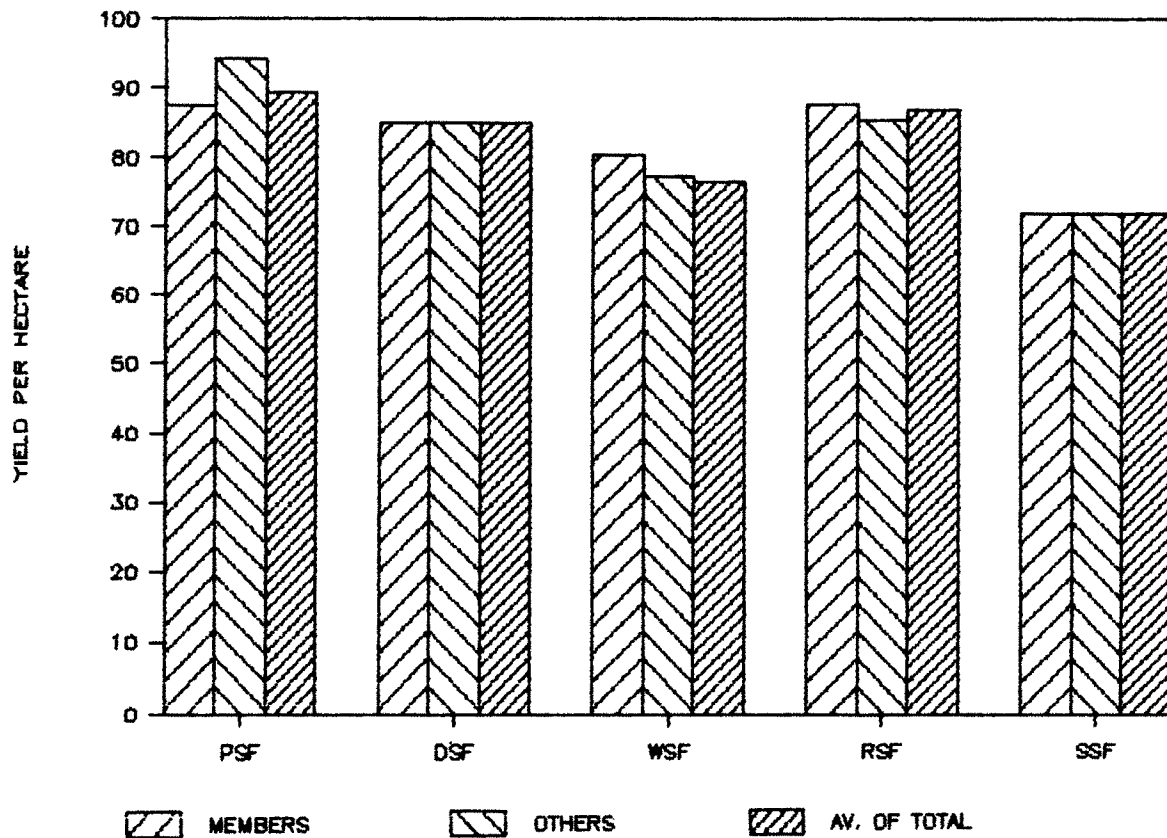
5-c.

**AVERAGE SUGARCANE PRODN. (MT/ha) 86-87**



5-d.

**AVERAGE SUGARCANE PRODN. (MT/ha) 87-88**



5-e.

**AVERAGE SUGARCANE PRODN. (MT/ha) 88-89**

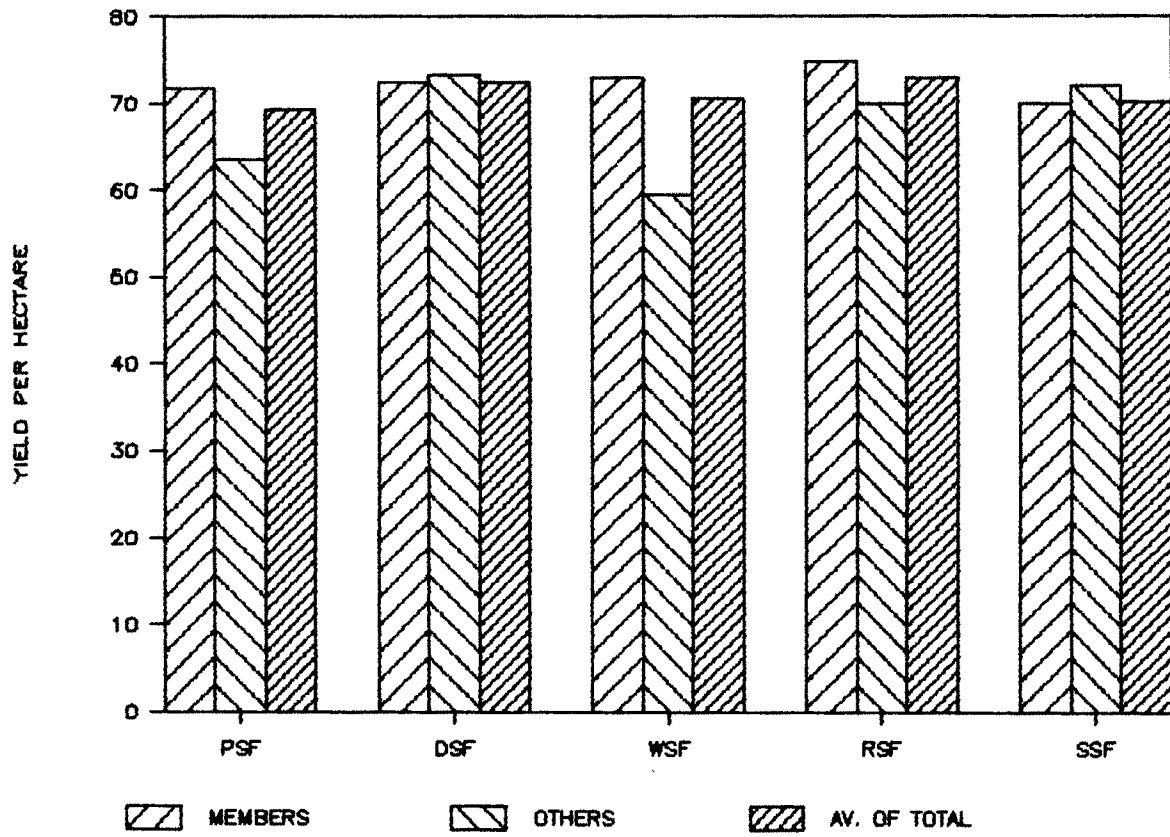


Fig: 5 .

respect to the SSF has been average compared to the other factories. The performance of the members and the 'others' is more or less same and the average output has remained more or less round 72 MT per hectare except for the year 1984-85, when it was lowest for all the factories at 64.52 MT per hectare. (Fig. 5a)

The average daily crushing capacity of the factories ranges between 2000 tonnes for RSF to 5000 tonnes for PSF and SSF [Table 6.10]. The sugarcane crushed during each season by the five sugar

TABLE . 6.10  
AVERAGE DAILY CRUSHING CAPACITY @ [Tonnes per day]

Year	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
1984-85	5,000 [100]	2,000 [100]	3,000 [100]	2,000 [100]	5,000 [100]
1985-86	5,000 [100]	2,000 [100]	3,000 [100]	2,000 [100]	5,000 [100]
1986-87	5,000 [100]	2,500 [100]	3,000 [100]	2,000 [100]	5,000 [100]
1987-88	5,000 [100]	2,500 [100]	3,000 [100]	2,000 [100]	5,000 [100]
1988-89	5,000 [100]	2,500 [100]	3,000 [100]	2,000 * [ 50]	5,000 [100]

Note @ Sanctioned or Lincenced Capacity

\* The capacity was increased to 4,000 tonnes from 1988-89. The crushing season normally lasts for five months from early November to last April each year.

factories ranged between 3,40,857 tonnes to 8,43,284 tonnes in 1984-85 with the member's cane being crushed by the respective factory ranging from 62 % to 85 % followed by that supplied by non-members [between 12 % and 29 %] [Table 6.11A]. In 1985-86 the amount

**TABLE 6.11 [A]**  
**SUGARCANE CRUSHED IN SEASON 1984-85.**

(Tonnes)					
Category	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Members	5,24,155.57	2,47,930	2,99,735	2,56,703	6,86,425
	[62.16]	[72.75]	[67.54]	[67.30]	[85.32]
Non-Memb.	2,41,498.65	85,978	49,286	97,761	94,026
	[28.63]	[25.22]	[11.10]	[25.63]	[11.69]
From the state	9,086.50	970	93,202	26,857	23,561
	[ 1.08]	[ 0.28]	[20.99]	[ 7.04]	[ 2.93]
Out of state	68,542.98	5,979	1,650	114	509
	[ 8.13]	[ 1.75]	[ 0.37]	[ 0.03]	[ 0.06]
Total cane crushed	8,43,283.70	3,40,857	4,43,873	3,81,435	8,04,521
	[100]	[100]	[100]	[100]	[100]

Note : The figures in bracket are percentages to the total of columns.

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of the cane crushed varied from 3,69,264 tonnes to 8,91,493 tonnes with the members share being around 64 % except for SSF where it was 83 %. The share of members continued to remain high above 60 % right through. However, a very important observation is that, the share of the members in the total cane crushed by the sugar factories each year has been very high for SSF - above 80 %.



**TABLE 6.11 [B]**  
**SUGARCANE CRUSHED IN SEASON 1985-86**

(Tonnes)

Category	PSF	DSF	WSF	RSF	SSF
	Ichal.	Shirol	Warana	Walva	Sangli
Members	4,85,425.00 [64.84]	2,39,119 [64.76]	2,46,967 [58.30]	2,45,021 [63.91]	7,39,787 [82.98]
Non-Memb.	2,02,569.45 [27.05]	1,01,229 [27.41]	47,292 [11.16]	1,13,828 [29.69]	1,31,966 [14.80]
From the state	10,347.80 [ 1.38]	1,880 [ 0.51]	1,26,894 [29.95]	24,547 [ 6.40]	18,969 [ 2.13]
Out of state	50,412.70 [ 6.73]	27,036 [ 7.32]	2,471 [ 0.58]	-	771 [ 0.09]
Total cane crushed	7,48,755.00 [100]	3,69,264 [100]	4,23,624 [100]	3,83,396 [100]	8,91,493 [100]

Note : The figures in bracket are percentages to the total of columns.

**TABLE 6.11 [C]**  
**SUGARCANE CRUSHED IN SEASON 1986-87**

(Tonnes)

Category	PSF	DSF	WSF	RSF	SSF
	Ichal.	Shirol	Warana	Walva	Sangli
Members	5,80,386.90 [61.32]	3,00,238 [64.00]	3,72,136 [65.72]	2,96,023 [65.74]	7,98,439 [84.13]
Non-Memb.	2,64,007.38 [27.89]	1,34,042 [28.58]	1,45,568 [25.71]	1,45,123 [32.23]	1,49,094 [15.71]
From the state	27,257.19 [ 2.88]	1,178 [ 0.25]	48,525 [ 8.57]	3,007 [ 0.67]	1,490 [ 0.16]
Out of state	74,913.53 [ 7.91]	33,643 [ 7.17]	-	6,150 [ 1.36]	25 [ Neg ]
Total cane crushed	9,46,565.00 [100]	4,69,101 [100]	5,66,229 [100]	4,50,303 [100]	9,49,048 [100]

Note : The figures in bracket are percentages to the total of columns.

**TABLE 6.11 (D)**  
**SUGARCANE CRUSHED IN SEASON 1987-88**

(Tonnes)

Category	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Members	5,78,064.37 [62.64]	3,26,018 [68.76]	4,09,640 [70.33]	2,91,386 [63.10]	7,69,944 [91.58]
Non-Memb.	2,68,250.68 [29.07]	1,28,375 [27.08]	83,890 [14.40]	1,68,035 [36.38]	62,413 [ 7.42]
From the state	7,497.95 [ 0.81]	855 [ 0.18]	88,955 [15.27]	2,352 [ 0.52]	1,292 [ 0.15]
Out of state	68,897.00 [ 7.47]	18,873 [ 3.98]	- -	- -	7,147 [ 0.85]
Total cane crushed	9,22,871.00 [100]	4,74,121 [100]	5,82,485 [100]	4,61,773 [100]	8,40,794 [100]

Note : The figures in bracket are percentages to the total of columns.

**TABLE 6.11 (E)**  
**SUGARCANE CRUSHED IN SEASON 1988-89**

(Tonnes)

Category	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Members	4,21,536.65 [68.30]	3,56,140 [91.42]	3,74,410 [69.85]	2,25,911 [64.96]	7,52,217 [90.23]
Non-Memb.	1,52,238.52 [24.67]	3,645 [ 0.94]	76,927 [14.35]	1,21,868 [35.04]	68,737 [ 8.24]
From the state	177.74 [ 0.03]	- -	80,550 [15.03]	- -	1,451 [ 0.18]
Out of state	43,211.09 [ 7.00]	29,770 [ 7.64]	4,134 [ 0.77]	- -	11,280 [ 1.35]
Total cane crushed	6,17,164.00 [100]	3,89,555 [100]	5,36,021 [100]	3,47,779 [100]	8,33,685 [100]

Note : The figures in bracket are percentages to the total of columns.

The minimum price per tonne paid for the cane by sugar factories was Rs. 328. The highest price paid was Rs.476 per tonne by RSF in 1988-89 [Table 6.12, A-E]. In fact, RSF has paid the highest price for the cane throughout the period 1984-85 to 1988-89. The sugar factories deduct some amount per tonne for various purposes eg. as fixed deposit, non-refundable deposit and other social fund obligations. Such deduction amount to a minimum of Rs.13 per tonne and as high as Rs.116 per tonne.

TABLE 6.12 [A]

FACTORY-WISE PRICE PAID FOR SUGARCANE DURING 1984-85

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Price per tonne	335	335	346	350	328
Cash paid per tonne	287	280	287	287	284
Total deductions per tonne	48	55	59	63	44
a) Non-refundable deposit	1	12	8	7	5
b) Term deposit - members	37	-	38	38	25
c) Term deposit Non-members	38	12	46	-	-

TABLE 6.12 [B]

FACTORY-WISE PRICE PAID FOR SUGARCANE DURING 1985-86

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Price per tonne	358	358	336	400	358
Cash paid per tonne	322	315	307	327	318
Total deductions per tonne	36	43	29	73	39.50
a) Non-refundable deposit	1	10	8	7	5
b) Term deposit - members	23	-	9	37	19
c) Term deposit Non-members	24	10	17	-	-

**TABLE 6.12 [C]**

**FACTORY-WISE PRICE PAID FOR SUGARCANE DURING 1986-87**

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Price per tonne	350	350	363	400	350
Cash paid per tonne	328	328	340	351	324.50
Total deductions per tonne	22	22	13	49	25.50
a) Non-refundable deposit	1	10	5	10	5
b) Term deposit - members	9	-	-	-	5
c) Term deposit Non-members	10	10	5	-	-

**TABLE 6.12 [D]**

**FACTORY-WISE PRICE PAID FOR SUGARCANE DURING 1987-88**

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Price per tonne	415	415	429	437	375
Cash paid per tonne	350	350	350	360	346.35
Total deductions per tonne	55	55	69	77	28.65
a) Non-refundable deposit	1	10	5	10	5
b) Term deposit - members	44	-	58	61	14
c) Term deposit Non-members	45	10	63	-	-

**TABLE 6.12 [E]**  
**FACTORY-WISE PRICE PAID FOR SUGARCANE DURING 1988-89**

	PSF Ichal.	DSF Shirol	WSF Warana	RSF Walva	SSF Sangli
Price per tonne	415	415	452	476	401
Cash paid per tonne	350	350	350	360	350
Total deductions per tonne	55	55	92	116	51
a) Non-refundable deposit	1	10	8	10	5
b) Term deposit - members	42	-	76	94	34
c) Term deposit Non-members	43	10	84	-	-

The sugar factories under study have continuously paid a higher price for the cane each year.

The amount of sugar produced depends on a number of factors particularly the average recovery rate and the total the cane crushed. [Table 6.13] shows the recovery rate of the five factories under study. It is seen from the table that the recovery rate achieved by DSF and WSF is quite high, almost continuously beyond 12 %. For other factories, the recovery rate is less than 12 % and greater than 11 %.

**TABLE 6.13**  
**AVERAGE RECOVERY RATE OF SUGAR [Percentage]**

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
PSF, Ichal.	11.58	11.77	11.39	11.67	11.80
DSF, Shirol	12.17	12.35	11.94	12.13	12.25
WSF, Warana	12.37	12.19	12.00	12.13	12.31
RSF, Walva	11.90	11.90	11.64	11.60	12.27
SSF, Sangli	11.41	11.29	11.12	11.10	11.69

The sugar produced by the sugar factories is shown in Table 6.14. The sugar production of the PSF was as high as 10,66,700 quintals in 1986-87 and as low as 7,13,520 quintals in 1988-89. This performance is much better in terms of total production, as compared to that of the other factories except the Sangli factory. In SSF the sugar production each year varied from a minimum of 9,19,895 quintals to a maximum of 10,59,000 quintals. For the DSF the maximum and minimum sugar production figures for the period under study was 4,15,950 and 5,75,975 quintals respectively, similarly the figures for WSF are 5,18,255 and 7,07,940 quintals and for RSF the figures are 4,23,005 and 5,35,882 quintals respectively.

**TABLE 6.14**  
**SUGAR PRODUCTION**

Factory	[Quintals]				
	1984-85	1985-86	1986-87	1987-88	1988-89
PSF, Ichal.	9,67,801	8,72,255	10,66,700	10,51,045	7,13,520
DSF, Shirol	4,15,950	4,56,580	5,60,865	5,75,975	4,73,425
WSF, Warana	5,51,771	5,18,255	6,79,929	7,07,940	6,60,660
RSF, Walva	4,54,215	4,61,651	5,25,765	5,35,882	4,23,005
SSF, Sangli	9,19,895	10,07,490	10,59,000	9,34,550	9,82,500

The cost of producing sugar can be calculated on the basis of net of the cane price or inclusive of the cane price [table 6.15]. The cost of production per quintal inclusive of the cane price for PSF increased from Rs.438 in 1984-85 to Rs. 579 in 1988-89. For DSF, the figures are much lower, Rs. 437 in 1984-85 and



Rs.488 in 1987-88. The WSF produced sugar for Rs.424 per quintal in 1984-85 which increased almost continuously Rs.599 in 1988-89. The RSF also saw an increase in the cost of production of sugar inclusive of the cane price from Rs.419 in 1984-85 to Rs.559 in 1988-89. The SSF also witnessed a continuous increase in the cost of production from Rs.401 in 1984-85 to Rs.593 in 1988-89.

The cost of producing sugar net of the cane price per quintal has been much lower at Rs. 155 per quintal for PSF in 1984-85 which increased to Rs. 232 by 1988-89. The DSF's cost of production of sugar was Rs.162 in 1984-85 but declined to Rs.144 per quintal in 1986-87 but then increased to Rs.154 in the next year. The WSF also saw similar changes in the cost of sugar net of the cane price. The cost of production of sugar per quintal net of the cane price increased from Rs.151 per quintal in 1984-85 to

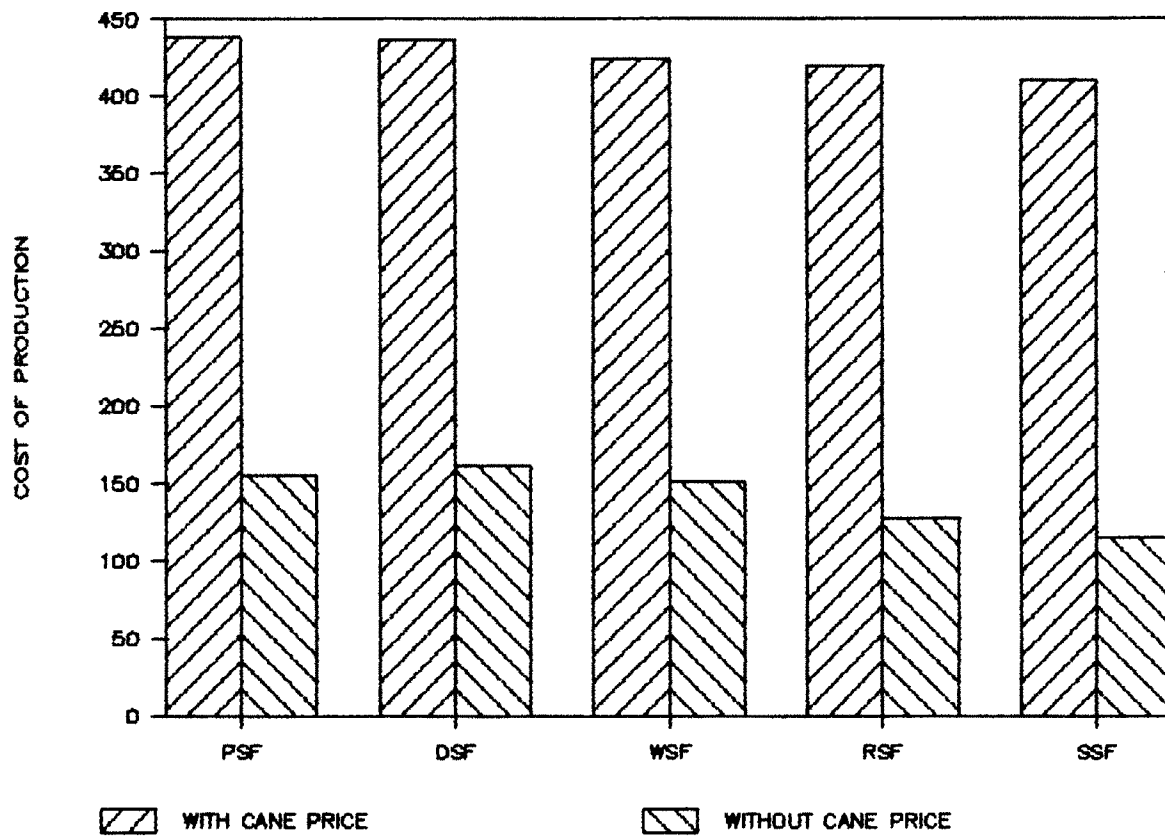
**TABLE 6.15**  
**COST OF SUGAR PRODUCTION**

Factory	[Rs. per Quintal]				
	1984-85	1985-86	1986-87	1987-88	1988-89
PSF, Ichal.	438.26	476.62	477.18	525.81	579.00
	[155.47]	[179.14]	[178.97]	[173.82]	[232.20]
DSF, Shirol	437.01	437.76	436.87	488.37	-
	[161.83]	[147.19]	[143.50]	[154.10]	-
WSF, Warana	423.88	404.54	447.83	555.11	599.13
	[151.17]	[165.08]	[153.86]	[136.11]	[157.13]
RSF, Walva	419.28	467.54	490.67	517.66	558.73
	[127.32]	[137.44]	[144.07]	[144.27]	[170.26]
SSF, Sangli	401.17	440.52	451.84	523.86	592.62
	[114.99]	[124.76]	[139.64]	[158.86]	[201.62]

Note: The figures in the parenthesis are cost without the cane price.

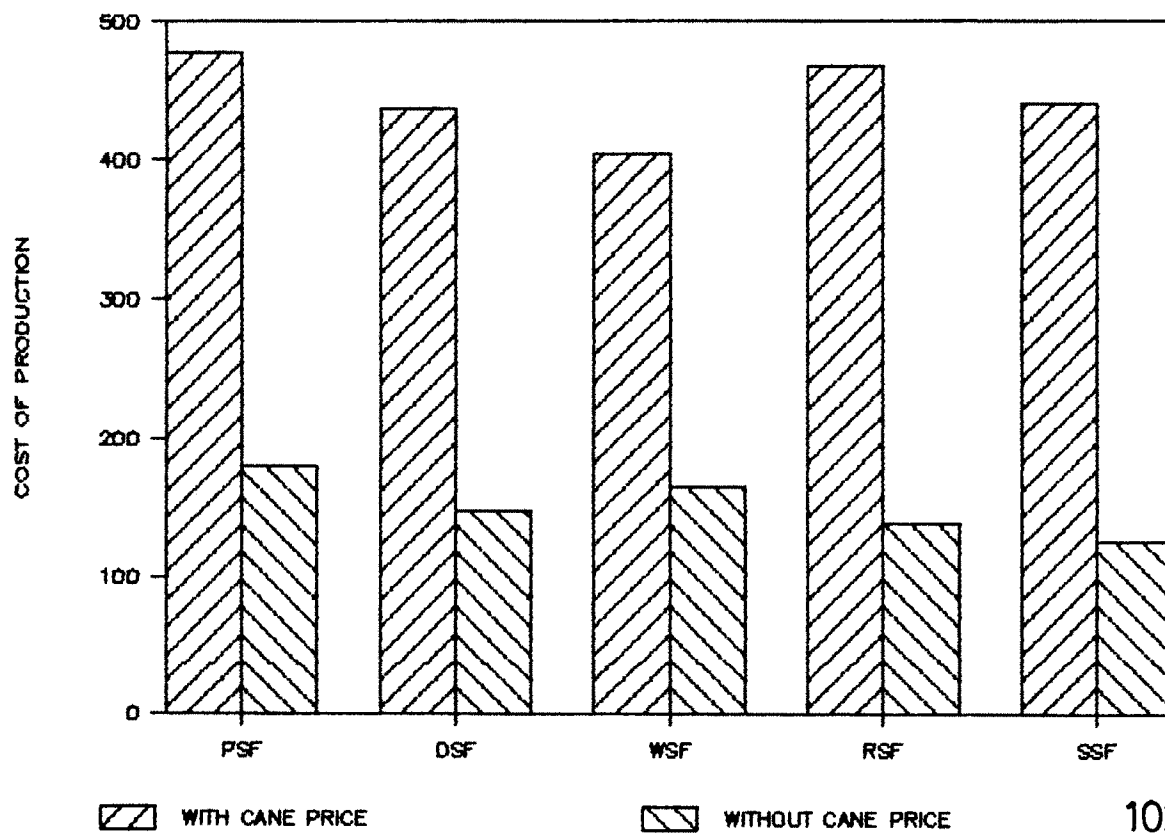
6-a.

**COST OF SUGAR PRODN. (Rs/quintal) 84-85**



6-b.

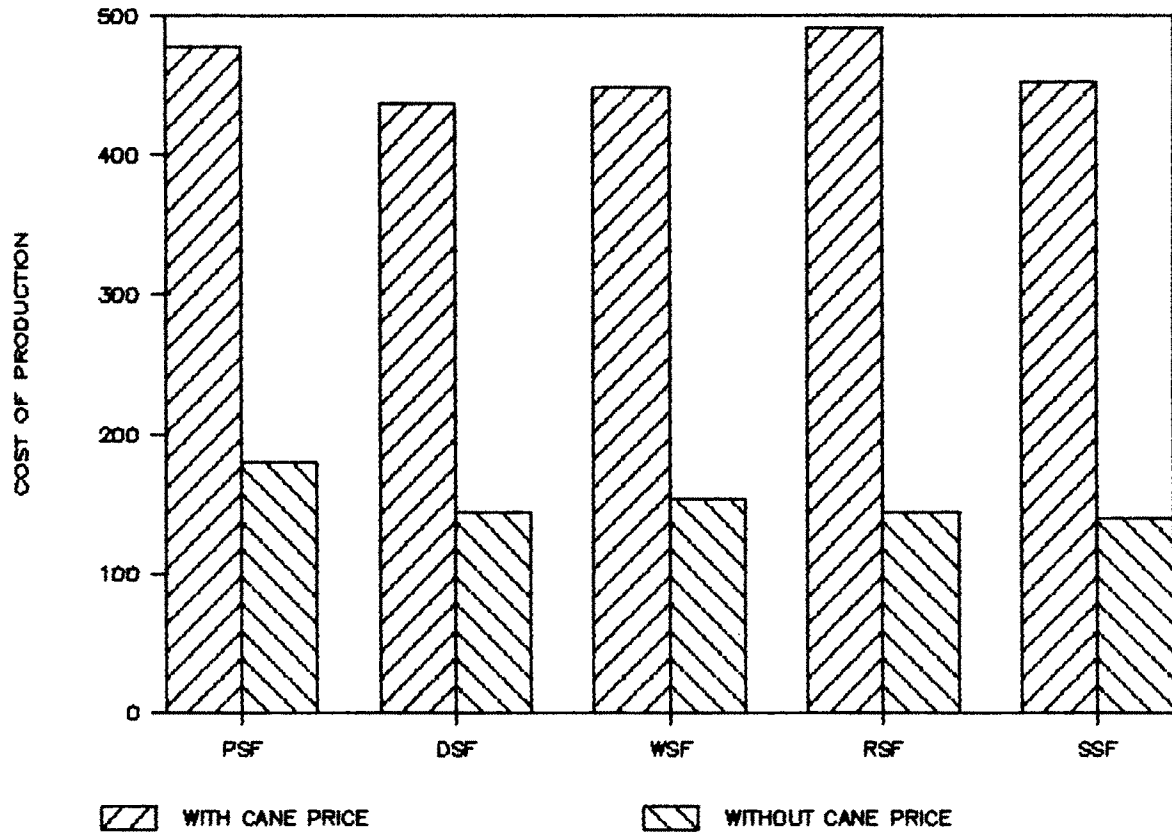
**COST OF SUGAR PRODN. (Rs/quintal) 85-86**





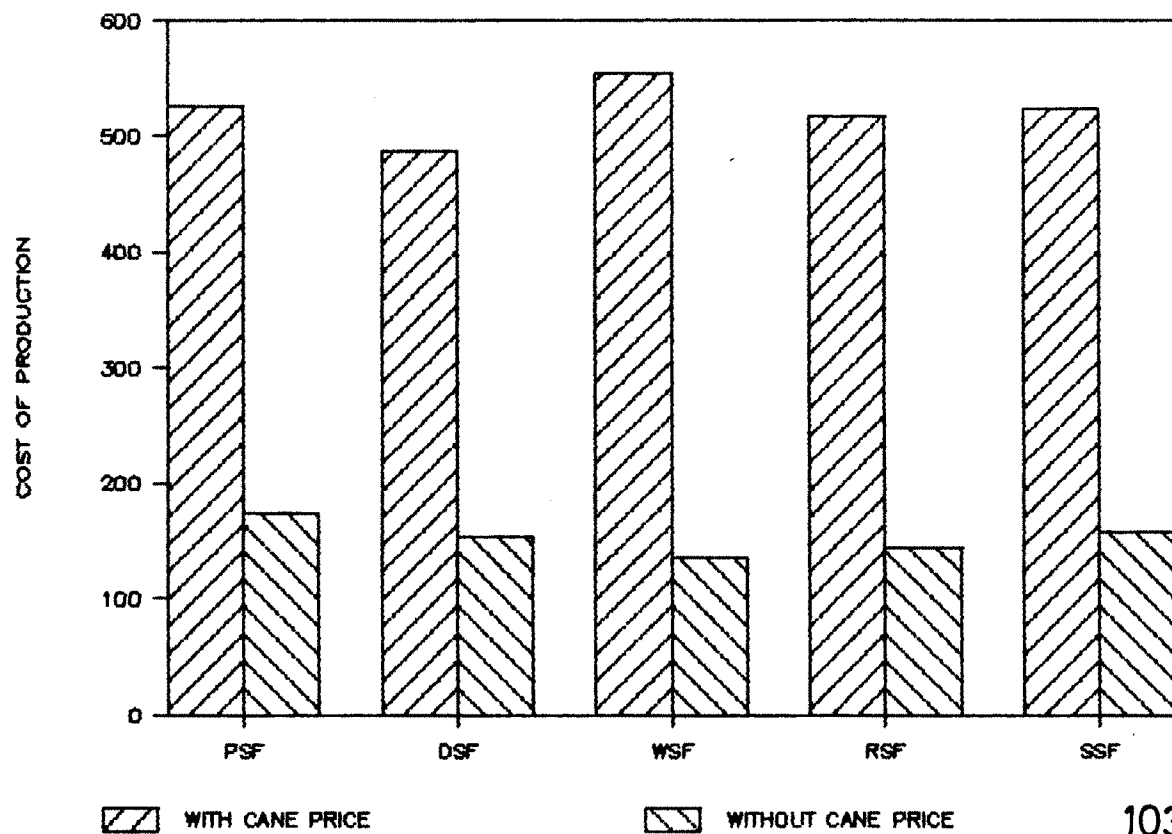
6-c.

**COST OF SUGAR PRODN. (Rs/quintal) 86-87**



6-d.

**COST OF SUGAR PRODN. (Rs/quintal) 87-88**



6-e.

**COST OF SUGAR PRODN. (Rs/quintal) 88-89**

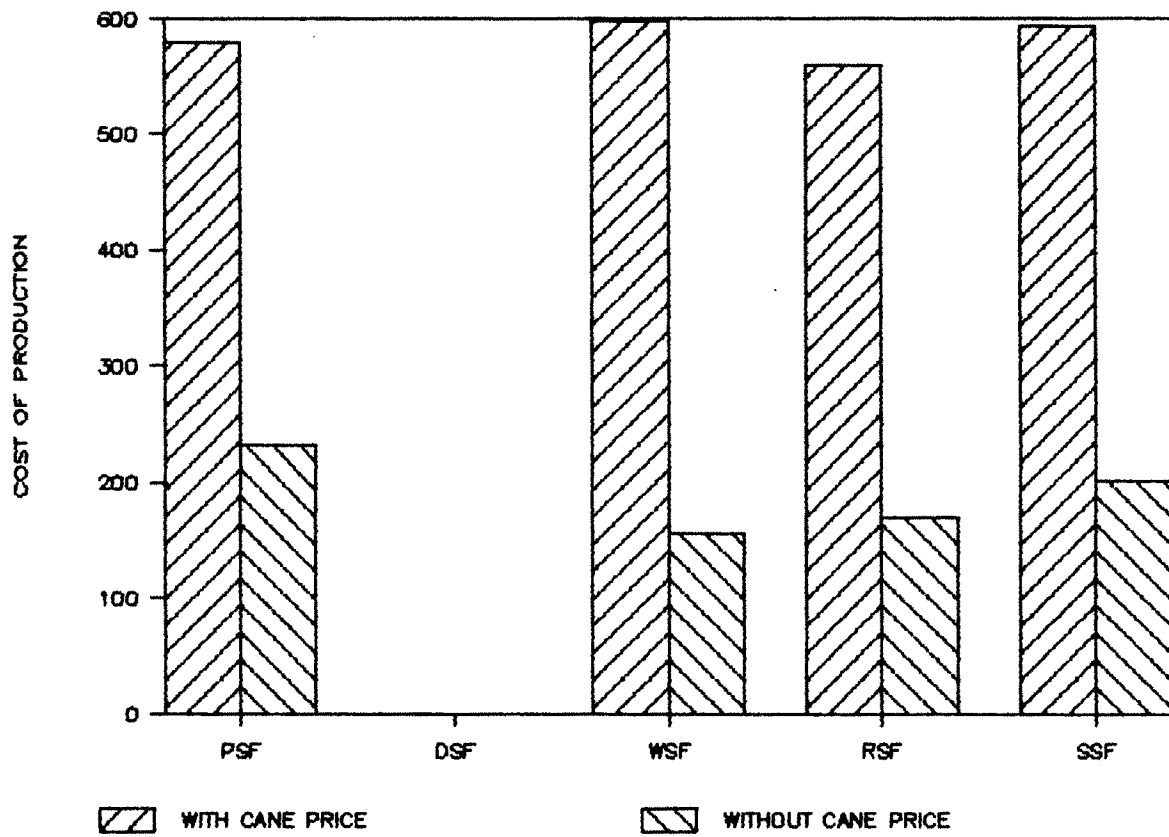


Fig:6.

Rs.165 in 1985-86 declined to Rs. 154 in 1986-87 and further to Rs.136 in 1987-88 before rising to Rs.157 in 1988-89. The cost of production of sugar net of the cane price at the RSF increased from Rs. 127 in 1984-85 to Rs.170 in 1988-89. The cost of production of this factory is amongst the lowest compared to other factories except for the SSF for the years 1984-85 to 1986-87. Thus the cost of sugar production for these three years was lowest at the SSF which was Rs.115 per quintal in 1984-85 and rose to Rs. 140 in 1986-87. The cost of production net of cane price per quintal at SSF reached Rs.159 in 1987-88 and Rs.202 in 1988-89. It appears *prima facie* that the the size of a factory in terms of average daily crushing capacity does not tend to have substantial effect on the cost of production.

Besides the cost of production, the sugar factories also incur an additional cost of cutting and transporting of the cane to factory. Such cost varies between Rs.34.00 par quintal to Rs. 62.53 per quintal [Table 6.16]. The cost of cutting and transporting the cane has been relatively low for RSF and SSF factories. Whereas, it has been fairly high for the other remaining sugar factories.

TABLE 6.16

AVERAGE COST OF CUTTING AND TRANSPORTING SUGARCANE  
[Rs. per quintal]

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
PSF, Ichal.	38.11	40.24	45.55	53.78	55.64
DSF, Shirol	39.13	39.02	42.74	57.27	-
WSF, Warana	38.21	39.80	45.61	53.61	62.53
RSF, Walva	34.02	35.29	46.22	47.52	47.56
SSF, Sangli	37.69	37.35	43.48	53.40	49.14

The sale of sugar in the country has been subject to restriction imposed by the Government from time to time. The country has been following a dual pricing policy with respect to sale of sugar. Sugar is generally sold under the free market sale or under controlled sale either in the domestic market and/or international market. The controlled sale within the domestic market to meet the requirements particularly and the socio economic basis of a large proportion of Indian population. The controlled sale of sugar by PSF fluctuated from year to year with the minimum being 2,17,875 quintals in 1988-89 and 5,50,579 quintals highest in 1987-88 [Table 6.17]. Similar trends are discernible for the open market sale of PSF with a minimum sale amounting to 2,41,867 quintals in 1988-89 and the highest at 5,21,854 quintals in 1984-85. The controlled exports were fairly insignificant [whenever exported] with the maximum of 20,000 quintals in 1984-85. It may be noted that there are no free exports of sugar for any of the five sugar factories in any of the five years under study.

The controlled sale of sugar by the DSF ranged between 1,05,146 quintals in 1988-89 with a maximum of 2,94,797 quintals in 1986-87. The free sugar sale ranged between 1,57,512 quintals [1988-89] and 2,77,148 quintals [1987-88]. The controlled export by DSF amounted to a maximum of 10,000 quintals in 1987-88. In fact, it exported sugar in only one additional year 1987-88. The WSF had a larger sale of sugar ranging between 2,89,843 quintals in 1985-86 and 5,21,530 quintals in 1988-89 of controlled category and 2,36,249 quintals [1985-86] and 5,38,873 quintals [1988-89] of free sale category. The WSF exported sugar under the controlled scheme for only one year amounting to 10,003 quintals in 1984-85. The RSF controlled sale of sugar varied between 1,67,338 quintals

TABLE 6.17

## SUGAR SOLD

[Quintals]

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
<b>PSF, Ichal</b>					
Controlled	5,06,279	4,60,780	5,29,242	5,50,579	2,17,875
Open Market	5,21,854	4,08,180	4,29,771	5,09,042	2,41,867
Export	20,000	-	10,000	10,000	-
<b>DSF, Shirol</b>					
Controlled	2,38,058	2,67,720	2,94,797	2,58,040	1,05,146
Open Market	2,46,107	2,01,122	2,42,976	2,77,148	1,57,512
Export	-	-	8,730	10,000	-
<b>WSF, Warana</b>					
Controlled	3,08,423	2,89,843	3,51,911	-	5,21,530*
Open Market	2,29,712	2,36,249	2,91,797	-	5,38,873*
Export	10,003	-	-	-	-
<b>RSF, Walva</b>					
Controlled	2,17,706	2,73,938	2,33,198	2,54,408	1,67,338
Open Market	2,51,834	2,07,033	2,18,485	1,82,326	2,15,483
Export	-	-	-	-	-
<b>SSF, Sangli</b>					
Controlled	5,62,254	5,20,806	5,23,780	4,76,939	2,27,245
Open Market	5,01,022	4,42,953	4,73,956	4,59,298	2,61,653
Export	-	34,080	20,000	10,000	-

Note : Controlled Sales within country.

Open Market Sale within country.

Export = Controlled Export.

\* Figures are pooled for the years 1987-88 & 1988-89.

in 1988-89 and 2,73,938 quintals in 1985-86. The free sale sugar varies from 1,82,326 quintals in 1987-88 to 2,51,834 quintals in 1984-85. The sale of sugar both in the controlled and free

categories by the SSF factory was very much higher than that of other four factories for almost all the years. However, the total sale in both these categories declined almost continuously from year to year. Controlled sale in the year 1984-85 amounted to 5,62,254 quintals and declined to 2,27,245 quintals in 1988-89. The amount of free sugar sold in 1984-85 was 5,01,022 quintals and declined to 2,61,653 quintals in 1988-89. The SSF exported sugar under controlled category for three years 1985-86 to 1987-88. However, the amount of sugar exported was not substantial and continue to decrease from 34,080 quintals in 1985-86 to 10,000 quintals in 1988-89.

Rate paid for sugar before tax varies from factory to factory and from year to year. The rates also vary on the basis of the type of sales i.e. controlled sale, free sale and export sale [Table 6.18]. The average rate offered in 1984-85 was Rs.392.12 per quintal by PSF followed by RSF [Rs.386.58], DSF [Rs.383.76], SSF [Rs.381.42] and WSF [Rs.380.77]. The free market sale price is higher than controlled sale prices. The controlled price in 1984-85 varied from Rs.447 to Rs.464. The controlled sale price varied from Rs.315.81 per quintal for RSF to Rs. 320.40 - PSF. The export prices were Rs.333.70 per quintal.

For the year 1985-86, the average rate for PSF was Rs.429.51 with controlled sale price at Rs.365.49 and free sale price of Rs.501.77 per quintal. The WSF received Rs.428.50 per quintal as average rate and Rs. 366.10 as controlled sale price and Rs. 505.06 as free market price. SSF received on an average Rs.425.88, with the controlled sale price at Rs. 366.16 and free sale price of Rs.500.14. This factory was the only one amongst the five to export sugar at Rs.373.29 per quintal. DSF got Rs.425.09 per quintal on an average with Rs. 368 as controlled price and Rs.502

**TABLE 6.18**  
**RATE OF PRE-TAX SUGAR**

[Rs. per Quintals]

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
<b>11 PSF, Ichal.</b>					
a1 Controlled Sale	320.40	365.49	380.29	392.42	400.98
b1 Free Sale	463.80	501.77	507.93	542.31	549.02
c1 Export	333.70	-	381.96	395.16	-
Average Total	392.12	429.57	439.05	463.78	478.86
<b>21 DSF, Shirol</b>					
a1 Controlled Sale	318.68	367.99	381.62	395.32	403.29
b1 Free Sale	446.72	501.93	507.10	537.96	542.87
c1 Export	-	-	381.95	395.16	-
Average Total	383.76	425.09	437.41	467.83	486.99
<b>31 WSF, Warana</b>					
a1 Controlled Sale	318.05	368.10	380.98	-	396.66*
b1 Free Sale	448.43	505.06	513.94	-	552.79*
c1 Export	333.70	-	-	-	-
Average Total	380.77	428.50	441.25	-	476.01*
<b>41 RSF, Walva</b>					
a1 Controlled Sale	315.81	362.47	380.43	389.81	398.34
b1 Free Sale	447.77	498.02	503.86	527.52	561.02
c1 Export	-	-	-	-	-
Average Total	386.58	420.81	440.13	447.30	489.91
<b>51 SSF, Sangli</b>					
a1 Controlled Sale	317.54	368.16	381.05	392.97	402.35
b1 Free Sale	453.15	500.14	509.14	539.98	551.44
c1 Export	-	373.29	381.95	395.16	-
Average Total	381.42	425.88	440.70	484.35	482.14

Controlled Sale within Country.

Open Market Sale within Country.

Export = Controlled Export.

\* Figures are pooled for the year 1987-88 & 1988-89.

as free sale price. The lowest amongst on an average received by RSF at Rs.420.81 per quintal, comprising of Rs.382.47 as controlled and Rs.498.02 as free market rate.

For the year 1986-87, the average rate varied from Rs.437.41 [DSF] to Rs.441.25 [WSF]. The controlled prices reigned at around Rs.380 per quintal and the open market price rate were on an average was Rs.507 per quintal. The SSF, DSF, PSF exported sugar in 1986-87 at the rate of Rs.382 per quintal. 1987-88 saw an increase in the average rate for every factory at around Rs.464 except for RSF, where the rate was Rs.447 per quintal. The export price was Rs.395 per quintal and PSF, DSF, SSF all exported some sugar. The controlled prices varied from Rs.390 to Rs.395 and the free sale rates varied from Rs.528 to Rs.542 per quintal.

In 1988-89, there were no exports of sugar by any of the five factories and the average rate varied from Rs. 476 per quintal to Rs.490. The controlled sale price varied from Rs.397 to Rs.403 and free sale rate from Rs.543 to Rs.561 per quintal.

The sugar factories normally have their own warehousing facilities with varying storing capacities [Table 6.19]. The PSF had 24 warehouses upto 1985-86 which increased to 25 in 1986-87 and remained same upto 1988-89. Thus, the warehousing capacity of the PSF increased from 7 lakh quintals in 1985-86 to 10.2 lakh quintals from 1986-87. The number warehouses owned by DSF was 6 upto 1985-86 but declined to 5 in 1988-89. Its warehousing capacity decreased from 2.7 lakh quintals upto 1985-86 to 2.15 lakh quintals in 1988-89. The number of warehouses owned by WSF remained constant at 13 with its capacity increasing from 6.15 lakh quintals in 1986-87 to 6.53 lakh quintals in 1988-89. The RSF had 7 warehouses upto 1986-87, thereafter increased the total by one and its capacity rising from 3.5 lakh quintals upto 1986-87 to



4.15 lakh quintals. The highest number warehouses owned by SSF which were 16 in number in 1984-85 and remained the same throughout. Its storage capacity was 9.6 lakh quintals.

**TABLE 6.19**  
**WAREHOUSING FACILITIES**

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
<b>1) PSF, Ichal.</b>					
a) -----	24	24	25	25	25
b)	7,00,000	7,00,000	10,20,000	10,20,000	10,20,000
<b>2) DSF, Shirol</b>					
a) -----	6	6	5	5	5
b)	2,70,000	2,70,000	2,15,000	2,15,000	2,15,000
<b>3) WSF, Warana</b>					
a) -----	13	13	13	13	13
b)	6,15,000	6,15,000	6,15,000	6,34,245	6,53,540
<b>4) RSF, Walva</b>					
a) -----	7	7	7	8	8
b)	3,50,000	3,50,000	3,50,000	4,15,000	4,15,000
<b>5) SSF, Sangli</b>					
a) -----	16	16	16	16	16
b)	9,60,000	9,60,000	9,60,000	9,60,000	9,60,000

Note : a) Total number of factory owned godowns/warehouses.  
b) Total storage capacity [ in quintals].

The cooperative sugar factories have a duty towards their members and must continually endeavour to introduce measures and practices which can help the producer values. Some of the activities the sugar factories can legitimately take up are those

which producer members to increase production in the overall agricultural activities. Some of the sugar factories have tried to help farmers particularly the member producer to increase the dairy product, poultry products. The SSF has facilities to produce animal feed and its capacity is 120 tonnes per day [Table 6.20]. With the capacity utilisation ranging from 47 % to 61 %. The total amount of cattle feed produced ranging from 6011 MT in 1988-89 to 16929 MT in 1985-86. The amount of poultry feed produced ranged from 7.78 MT in 1988-89 to 3011 MT in 1986-87. The average cost of cattle feed per tonne ranged from Rs.1427 per tonne [1985-86] to Rs. 1679 per tonne [1988-89] and that of poultry feed from Rs.2045 in 1985-86 to Rs.2649 in 1988-89. The total value of the animal feed produced at the factory ranged from Rs. 124.24 lakhs in 1988-89 to Rs.302.28 lakhs in 1985-86. The total cost of production varied from Rs.121.54 lakhs in 1988-89 to Rs. 288.50 lakhs in 1986-87. The total value of sales varied from Rs.124.59 lakhs in 1988-89 to Rs.302.94 lakhs in 1985-86.

The other production activity that the factory can indulge in is related to paper and molasses. The DSF and WSF had paper producing units with daily capacity for both the factories being 20 tonnes [Table 6.21]. The capacity utilisation for DSF ranged from a minimum of 62 % in 1984-85 to a maximum of 96 % in 1987-88. For the WSF a minimum capacity utilisation was 58 % in 1984-85 and maximum from 75 %. From 1986-87 onwards the amount of paper produced ranged from 4080 tonnes [1984-85] to 6326 tonnes [1987-88] for DSF. The total paper produced by the WSF was much higher at 3842 tonnes in 1984-85 to 7444 tonnes in 1988-89.

The average pre-tax price of paper for the sugar factories are varied from year to year from a minimum of Rs.9820 in 1985-86 [DSF] to Rs.12,912 in 1988-89 [WSF]. The value of the total paper

produced by the two sugar factories separately, before tax ranged

TABLE 6.20

ANIMAL FEED PRODUCED BY SANGLI SUGAR FACTORY

	1984-85	1985-86	1986-87	1987-88	1988-89
<b>1) Production Capacity :</b>					
-----					
a) Per day [MT]	120	120	120	120	120
b) Utilisation Index [%]	61	59	55	51	47
<b>2) Total production in a year :</b>					
-----					
a) Cattle Feed [ MT ]	13,670	16,929	14,472	13,777	6,011
b) Poultry Feed [ MT ]	2,414	2,371	3,011	1,845	778
<b>3) Average Production Cost per Tonne * [ in Rs. ]</b>					
-----					
a) Cattle Feed * [Rs./Tonne]	1,511	1,427	1,545	1,655	1,679
b) Poultry Feed * [Rs./Tonne]	2,326	2,045	2,152	2,258	2,649
4) Total Value of Products at the Factory [Rs. lakhs]	247.81	302.38	296.77	281.09	124.24
5) Total Cost of Production [ Rs. lakhs ]	221.24	286.84	288.50	269.59	121.54
6) Value of Total Sales [Rs. lakhs]	247.19	302.94	296.06	281.46	124.59

Note - \* The figures are amount before tax.

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between a minimum of Rs.391.93 lakhs in 1988-89 [DSF] and maximum of Rs. 961 lakhs in 1988-89 [WSF]. Total cost of production was

slightly lower for the WSF and varied from Rs.554.97 lakhs in

TABLE 6.21

PAPER UNITS OF THE FACTORIES

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
<b>A) Datta Sugar Factory [Shirol]</b>					
-----					
1) Production Capacity					
a) Daily [tonnes]	20	20	20	20	20
b) Utilisation					
Index [%]	62.00	83.55	93.42	95.90	92.86
2) Total paper	4,080	5,514	5,584	6,326.2	2,820.7
Production[tonnes]					
3) Average Cost	10,950	9,820	10,372	11,492	13,894
per tonne [Rs.]*					
4) Total Value of	446.85	538.37	579.18	727.01	391.93
Paper[Rs.lakhs]*					
5) Total production					
Cost [Rs.lakhs]	583.10	666.62	790.86	893.12	466.41
6) Total Sales in*	433.31	556.68	554.05	744.35	345.63
a Year[Rs.lakh]					
<b>B) Warana Sugar Factory</b>					
-----					
1) Production Capacity					
a) Daily [tonnes]	20	20	20	-	20
b) Utilisation					
Index [%]	58.00	68.00	75.00	-	75.00
2) Total paper	3,842	4,486	4,925	-	7,444
Production[tonnes]					
3) Average Cost	11,369	10,535	11,178	-	12912.3
per tonne [Rs.]*					
4) Total Value of	436.82	472.60	550.99	-	961.19
Paper[Rs.lakhs]*					
5) Total production					
Cost [Rs.lakhs]	554.97	569.50	677.84	-	1146.36
6) Total Sales in*	398.97	478.00	531.46	-	940.93
a year[Rs.lakh]					

\* The figures are before tax.

@ The figures are pooled for the years 1987-88 and 1988-89.

1984-85 to Rs. 1146.36 lakhs in 1988-89. For the DSF total production cost of paper ranged between Rs.466 lakhs in 1988-89 to Rs. 893 lakhs in 1987-88. The total value of sale before tax increased for the WSF continuously from Rs.399 lakhs in 1984-85 to Rs. 941 lakhs in 1988-89. For the DSF, the total values of sales before tax increased from Rs.433 lakhs in 1984-85 to Rs.744 lakhs in 1987-88 before falling to Rs.346 lakhs in 1988-89.

All the sugar factories under study had molasses as waste which could then be used as a raw material for the production of by-products, particularly alcohol. The amount of molasses produced by sugar factories is given in the Table 6.22 and it varied from

**TABLE 6.22**  
**PRODUCTION OF MOLLASSES**  
( Tonnes )

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
1) PSF, Ichal.	29,328 [3.51]	26,004 [3.51]	36,167 [3.86]	35,024 [3.83]	21,375 [3.59]
2) DSF, Shirol	13,749 [3.99]	12,868 [3.49]	16,186 [3.45]	16,716 [3.52]	13,281 [3.51]
3) WSF, Warana	16,761 [3.77]	15,568 [3.66]	20,738 [3.66]	21,013 [3.61]	19,269 [3.59]
4) RSF, Walva	12,869 [3.37]	13,387 [3.49]	16,187 [3.59]	16,206 [3.51]	11,199 [3.30]
4) SSF, Sangli	29,300 [3.64]	33,737 [3.78]	34,468 [3.63]	32,565 [3.88]	30,592 [3.59]

\* Total production of molasses [tonnes].

+ Figures in brackets are production of molasses per tonne of the cane [%].

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12,869 tonnes [RSF] to 29,328 tonnes [PSF] in 1984-85. The

production of molasses per tonne of the cane ranged between 3.37 % [RSF] to 3.99 % [DSF] in 1984-85. The production of molasses for PSF was the highest at 36,167 tonnes in 1986-87. For DSF was 16,716 tonnes in 1987-88. For WSF it was 21,013 tonnes in 1987-88. For RSF it was 16,206 tonnes in 1987-88 and 34,488 tonnes for SSF in 1986-87. The production of molasses per tonne of the cane in percentage for different factories varied from a minimum of 3.30 to a maximum of 3.99.

The sugar factories also accept deposits from members and others in the form of fixed or other form of deposit. Table 6.23 shows the total amount of [non-refundable] deposits received by the five sugar factories in each year and the total cumulative deposit each year. The highest amount of deposit received was by the SSF and varied from Rs.32.83 lakhs in 1988-89 to Rs.40.63 lakhs in 1986-87. The second rank as far as the total deposit received each year is concerned goes to DSF where the total deposit in each year varied from a minimum of Rs.23.62 lakhs in 1985-86 to a maximum of Rs.34.99 lakhs in 1987-88. The WSF received a sum of Rs.19.98 lakhs by way of the deposit [minimum] in 1985-86 and Rs.29.28 lakhs [maximum] in 1988-89. The RSF received a minimum of the deposit for any year of Rs.17.14 lakhs in 1985-86 and maximum of Rs.29.91 lakhs in 1986-87. As far as PSF is concerned, the amount of the deposit received has not been substantial and compared to that received by other sugar factories. The amount is small varying from Rs.4.57 lakhs in 1988-89 to Rs.6.33 lakhs in 1986-87. The cumulative deposit were fairly substantial for the PSF, where it ranged from Rs.494.05 lakhs in 1984-85 to Rs.516.2 lakhs in 1988-89. For the DSF the total accumulated deposit at the end of each year varies from a minimum of Rs.192.65 lakhs in 1984-85 to Rs.307.68 lakhs in 1988-89. As

far as the WSF is concerned, the deposit accumulated at the end of each year amounted to Rs.377.69 lakhs in 1984-85 and increased

TABLE 6.23

DEPOSITS [NON-REFUNDABLE]

[Rs. Lakhs]

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
1) PSF, Ichal.					
a) 5.43	5.43	5.21	6.33	6.31	4.57
b) 494.05	494.05	499.26	505.61	511.63	516.20
2) DSF, Shirol					
a) 29.38	29.38	23.62	29.95	34.99	26.47
b) 192.65	192.65	216.27	246.22	281.21	307.68
3) WSF, Warana					
a) 23.62	23.62	19.98	18.58	20.42	29.28
b) 377.69	377.69	395.30	413.57	433.95	463.23
4) RSF, Walva					
a) 17.94	17.94	17.14	29.91	29.13	21.91
b) 136.00	136.00	153.14	183.05	212.18	234.09
5) SSF, Sangli					
a) 34.81	34.81	37.39	40.36	38.92	32.83
b) 768.87	768.87	806.26	846.62	885.56	918.31

Note : a) Total amount received during the year.

b) Cumulative amount at the year end.

continuously to Rs.463.23 lakhs in 1988-89. The RSF had the lowest amount of accumulated deposit at the end of each year with the minimum at Rs.136 lakhs in 1984-85 and a maximum of Rs.234.09 lakhs in 1988-89. The SSF however, had the highest amount of deposit at the end of each year. The minimum amount of such deposit was Rs.768.87 lakhs in 1984-85 and increased continuously to Rs.918.31 lakhs in 1988-89.

The amount of other deposits net of withdrawals varies

substantially for five factories during the five years [Table 6.24]. For PSF which had the highest amount of 'other deposit' the

TABLE 6.24

OTHER NET DEPOSITS RECEIVED DURING THE YEAR.  
[Rs. in Lakhs]

Factory	1984-85	1985-86	1986-87	1987-88	1988-89
11 PSF, Ichal.	376.42	210.88	94.89	379.53	308.85
21 DSF, Shirol	103.81	45.40	- 27.62	197.23	104.26
31 WSF, Warna	178.29	- 66.89	- 71.55	281.01	409.37
41 RSF, Walva	153.43	81.36	107.16	218.67	341.68
41 SSF, Sangli	183.94	176.96	55.38	121.84	182.17

amount varied from Rs. 94.89 lakhs in 1986-87 and Rs.376.42 lakhs in 1984-85. The DSF saw fluctuations in other deposits falling continuously from Rs.103.81 lakhs in 1984-85 to -27.62 lakhs in 1986-87. Then rising to 197.23 lakhs in 1987-88 and then falling again to Rs.104.26 lakhs in 1988-89. The WSF had a similar experience with the total net deposit falling for Rs.178.29 lakhs in 1984-85 to Rs. - 71.55 lakhs in 1986-87 and then rising continuously to Rs.409.38 lakhs in 1988-89. For RSF, except for a mild hiccup in 1985-86, the net deposit continued to rise from Rs.153.43 lakhs in 1984-85 to Rs.341.68 lakhs in 1988-89. The performance of SSF in terms of other net deposits received is not very commendable. The amount of deposits fell from Rs.183.94 lakhs in 1984-85 to Rs. -100.13 lakhs in 1986-87. Then again rising to Rs.182.17 lakhs in 1988-89. Thus, for the period as a whole does not appear to be a substantial improvement in boosting deposit by the SSF.

The factories also take care of their workers and pay a bonus to them each year. This is nominally in appreciation of the



work done by the workers and probably in anticipation of improved efficiency. The amount of bonus period generally varied but the sugar factories under study paid a bonus of 20 % each year.

## B] CONCLUSIONS AND SUGGESTIONS.

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The study along with brief discussion on the sugar industry in India and particularly in Maharashtra have indicated that, the state of Maharashtra is a fairly important sugar producing state in India. Amongst various districts in Maharashtra, Sangli and Kolhapur are quite important. The membership of the cooperative sugar factories in period under study has increased but not very substantially. The most important sugar factory in terms of the membership is the Sangli Sugar Factory with very high number of producer members belonging to the backward classes. Thus the other four factories, where the proportion of the backward class producer members is quite small an active effort should be undertaken to register more members from this category. Indeed, the sugar cooperatives in Maharashtra, as elsewhere in the country, must continuously endeavour to help bring about not only the economic transformation in rural areas but also, and probably more important, should have in ushering social transformation.

The data indicates that a fairly large number of farmers from outside the jurisdiction of the concerned sugar factory either from within Maharashtra or from outside Maharashtra, is supplying the cane to the sugar factories. This can create problems for the sugar factories, if the farmers, particularly from outside Maharashtra are prevailed upon to sell their cane to the sugar factories within the boundaries of their own state. If it does happen, there can be further reduction in the capacity utilisation. It is further found that on the whole roughly 25 percent of the area under the cane supplying the raw material to the factories belongs to non-members. Efforts should also be made to encourage individuals to become members of sugar cooperatives

and derive additional benefits from it.

The total cane produced in the area of factory jurisdiction for the five factories has oscillated, but shown a trend towards increase. The share of Panchaganga Sugar Factory is substantial i.e. more than one third of total of the five factories. The average sugarcane production is much lower for the Sangli Sugar Factory and it must study methods adopted by others to increase the yield per hectare quite substantially.

The Panchaganga and Sangli Sugar Factories had very high amounts of the cane crushed each year with the Panchaganga having an edge over the Sangli Factory. The amount of sugar produced varied substantially from factory to factory and from year to year. Such type of changes bring about uncertainty in the market and therefore can affect the rural economy somewhat adversely.

The cane price paid by the sugar factories to the the cane supplier has varied from factory to factory and from within the factory from year to year. This probably makes for some element of uncertainty. The cane producing areas, as is well known are very likely to suffer from the problems of loss of fertility, and increases in salinity etc. Greater inducements in the form of higher prices among others can send wrong signals to the farmers and thus aggravate the situation on longer terms for factory. However, factories do perform a social duty when it utilises its resources for social and other benefits of rural population.

The cost of production of sugar has varied from factory to factory and from year to year. However, cost of production, inclusive of otherwise, the cane price, of the sugar produced by the Sangli sugar factory is the lowest amongst the five factories, reflecting *in par*, the economies of scale. It can be noted further, that the Panchaganga Sugar Factory, which has the same

sugar production capacity as the Sangli Factory, has higher cost of production. The Panchaganga Sugar Factory, *prima facie* should become more efficient. On the whole, the total capacity does not affect the cost of producing sugar.

Sugar factories can diversify their production activities and further help rural economy. The areas in which they can venture are animal feed production, production of paper and by-products such as liquor. These can have reduced the average cost of production of sugar also.