

TO WINDUP OR TO RUN

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ABSTRACT

The sugar group of mills comprised of 67 mills, 37 of them belonging to the UP State Sugar Corporation (UPSC) and 32 belonging to UP State Cooperative Sugar Mills Federation (UPSF). Most of the mills were making losses in 1998 99. Indeed, (UPSC) had been referred to the Board of Industrial and Financial Reconstruction (BIFR), having eroded its net worth. (BIFR quasi judicial body, which was created to facilitate rehabilitation or winding up of sick industrial enterprises). The Secretary Sugar and Cane Development, government of U. P., was wondering what action should be taken in respect of the sugar mills belonging to both the U. P. S.C and U.P.S.F.

UPSC was created in early 1970s by taking over the sick private are mills, by the garment of the speed to protect the livelihood of the people are slated with data; namely the staff of the mill is to start many mills were having obsolete technology, which could not be updated due to lack of funds or inappropriate allocation of the resources on account of political consideration. The UPSF was formed a in the year 1961. Although U. P. FC mills where is really they are also the government mills and politically controlled, as almost 95 percent of the membership fee was subscribed by government.

The mills were making losses in varying degree. The state government, which had been funding the losses, by paying from its own coffers, was finding it difficult to fund the losses at any more. The U. P. S.C. mills had been referred to BIFR's consideration and there was a chance that that they would be wound up, if a workable rehabilitation scheme was not brought up. Although U. P. F.C mills were not referred to BIFR, their performance was no better. Even the higher capacity mills were making losses. The contribution margins of mills were not quite adequate to cover all the costs. Many of the mills had negative contribution margin. The presence of a large number of mills, however, helps in benchmarking the performance for analysis and decision making and for identifying the areas of improvement in different mills.

The case builds upon the principle of equitable sacrifices, enunciated in earlier papers. It describes how a detailed break- even analysis, with varying assumptions, based upon different levels of sacrifices by various stakeholders (owners, financial institutios, employees etc.) can help in identifying whether a mill has any chance of survival. It takes the sacrifice level to 50% to decide the issue. It further analyses the managerial challenges associated with such a plan by calculating backwardly target

recovery rates (a critical and most significant cost variable). It thus helps in taking a final decision. *If the target recovery rate for a mill goes beyond the realm* (i.e., which is impossible to achieve, based upon the maximum that has ever been achieved by the mills), *then it may be wound* up as with maximum sacrifice also it is not possible to run a mill in an economically viable manner. *If the target recovery rate* is within reach then with varying levels of sacrifices *the mill may survive with hard work and appropriate leadership.* It can thus provide a sound understanding the possible courses of action and preparing a rehabilitation plan/ taking the winding up decision.

The case study (i) gives a fair understanding of the sugar business, (ii) helping identification of the key success factors, (iii) improving the understanding of the managerial challenges associated with turning around of a sick sugar mill, (iv) realising the importance, religious and the criticality of financial analysis, especially the break even analysis, (v) assessing whether the challenges are the within manageable limits or the mill has reached the point of no return and should be closed down, (vi) enable one generate a large number of alternatives to help turning around of the mill, (vii) developed new approaches for managing turnaround.

13.0 TO WINDUP OR TO RUN

13.1 Introduction

In April 1999, the Secretary, Cane Development and Sugar Industry, government of Uttar Pradesh (U.P.), was wondering as to what action should he take to face the challenge posed by the mounting losses (see exhibit-1a, 1b and 1c) of 35 mills of the U.P. State sugar Corporation (UPSC). Since the Board for Industrial and Financial Reconstruction (BIFR) provisions became applicable to them, the mills of UPSC have been referred to BIFR under Sick Industries Control Act (SICA) in the year 1995. He was to submit a rehabilitation scheme to the BIFR for latter's consideration. He was getting a feeling that some drastic measures would be necessary such as closing down some of the loss making mills. He was quite aware that the task would not be easy as the issue had political overtones which would be exploited to the hilt by opposition parties in the state, especially because the mills were supporting several million cane growers in a predominantly agricultural state. He was at the same time also aware of the economic compulsions of the state government that could not support the mounting losses. Indeed, there was a growing feeling in the government circles that government should get out of the business activities. Indeed, it had initiated the process of privatisation of monopolies like electricity, transport etc, but it was not proving a easy task.

Apart from UPSC mills, there were 32 sugar mills belonging to U.P. State Cooperative Sugar Mills Federation (UPSF) that were worrying the Secretary, who was ex-officio Chairman of the UPSF. The performance of the sugar mills of UPSF also was causing concern as many of its mills had accumulated huge, so much so that their net-worth was eroded. He had a strong feeling that the mills of UPSF also needed a major overhaul, as the government will not be able to support the losses of UPSF either.

13.2 Background of the Mills

The Sugar Group acted as an umbrella for 67 sugar mills located in different parts of the state of Uttar Pradesh. The mills of the Group are organized under two broad categories: one, those belonging to UPSC having 35 mills, and the other, belonging to the UPSF having 32 mills. Five out of 35 mills of Sugar Corporation have been closed since November 1998. Both UPSC and UPSF had its own Chairman as well as a Managing Director (as its Chief Executive). Both of them were under the administrative control of Secretary, Cane and Sugar Industry; Government of Uttar Pradesh.

UPSC was established in the year 1971 with the purpose of taking over the sick private sugar mills in the state of UP. Later on 6 new mills were also added during 1974-85 (see exhibit 2a and 2b) to augment the production capacity.

The first co-operative sugar mill was established in 1959 at Bazpur. Subsequently, UPSF was established in the year 1963, which now consists of 32 mills. Like UPSC the

UPSF mills were established with the purpose of bringing prosperity to the farmers through cooperative action. Additional objectives of employment generation and development of backward areas might have also influenced the decision of setting up of these mills as this wouldn't have, in normal course, attracted private entrepreneurs to invest in these areas.

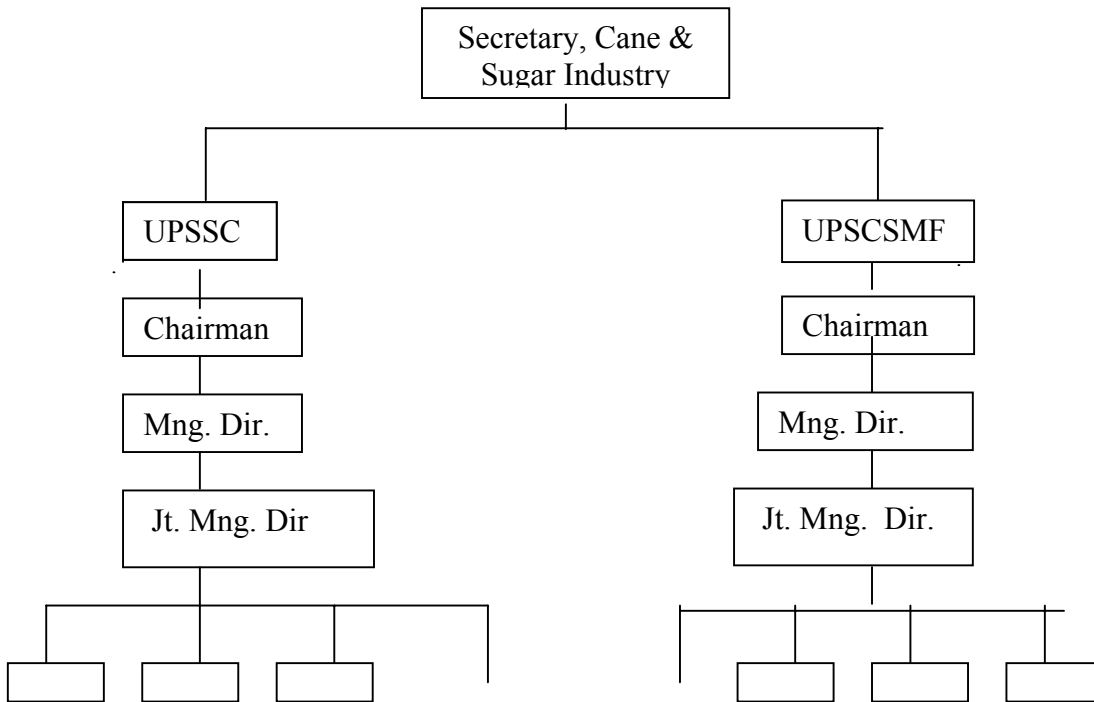


Fig. 2.3 Organisation Structure of Sugar Group of Mills

13.3 Complexities of Sugar Business in India

The sale of sugar was a highly regulated one. About 40% of the sugar produced by the mills was supplied to the government-run Public Distribution System (PDS) at very low and predetermined prices known as “levy sugar”. The balance 60% was sold through private trade at market prices. However, even this 60% was controlled through the system of quota allotted by the Central government. This had implications for very high inventory costs, as the sugar produced in 5-months season is off-loaded in the market during next 12 months. It was mandatory for the mills to keep 12 months inventory of sugar, as prescribe by the government. The mills could not dispose off the stock as they wish and they had to crush all the sugarcane allotted to them. They were required to carry the sugar stock as determined by the Central Government by each mill and make proper arrangement for holding the stock. The mills, thus, had to incur costs for doing the business as stipulated by the Central Government. Further, the quota allotment by the central government was done mill-wise and not firm-wise (i.e. for the UPSC or UPSF as a whole). Hence it is not possible for UPSC or UPSF to specialise any mill in a particular brand or orient it for a particular market by selective investment in modernisation/ renovation as in the case of a typical product/ commodity manufacturer

The mills differed in terms of their installed capacity, production, profit position (see exhibit 3a and 3b) and product mix, although most of them had net accumulated losses.

The sales were mainly in the state of Uttar Pradesh (about 80-85%). Only a small part of total production was sold outside the state/ exported..

13.4 The Context of the Sugar Mills

The sugar manufacturing (or processing) technology of the mills can be classified into 3 broad categories namely, totally steam operated (oldest form), partially steam operated and fully electrically operated (latest). Each one of them, however, uses baggasse for producing steam required for the purpose of running steam turbines. In the oldest technology, sugar cane was crushed by machines, which used steam turbines directly as the prime movers. In the latest technology, steam turbines worked for generating electricity, which ran electric motors to operated crushing machines. The three technologies had different economics of operation: fully electrically operated being the most efficient ones and fully steam operated the least efficient. However, it required high investment to switchover from steam operated mills to electrically operated mills.

The mills also differed on the supply of sugar cane (see exhibit 4), both in terms of quality and quantity, depending upon the mills' capacity and topography of the area. Eastern U.P. Mills faced the vagaries of weather more than the Western U.P Mills. Each mill was assigned a "catchment area" by the cane department of the State Government from where it could procure sugar cane. Typically it was the area within 15 k.m. radius of a mill. The mills were not allowed to procure sugar cane from outside their area without the permission of the Cane Directorate of the state government. Even after the allotment of cane, a mill was not sure to get the quantity it wanted, due to various factors, such as the farmers' disinterest, bad crop performance in a year, floods, diversion of sugarcane to "crushers" in the unorganised sector that enjoyed tax and excise duty benefits and therefore could pay a higher price to the farmers.

The mills were not allowed to harvest the sugar cane directly from the fields. At the beginning of the season, the farmers had to indicate to the Cane Directorate of the state government as to how much sugarcane each one of them would like to sell to the sugar mills. The Cane Directorate then earmarked and allotted the areas to different mills (Private, Cooperative and Government mills). The sugar societies* of the respective areas got a copy of the allotment orders. The mills were not expected to refuse the intake brought in by the farmers. The sugarcane societies of respective areas charted out the programme for supply to the mills and issued "Slips" to each farmer for the purpose on a daily basis. The farmers had to harvest the crop on the basis of the

* These societies were run on a cooperative basis, each farmer being member of the society in the area.

"Slips" issued to them and bring it to the concerned mills. They were paid by weight at the rate announced by the State Government for the year (called State Advised Prices). The payment was not related to the recovery rates (i.e., the ratio of sugar produced from every unit of sugar cane crushed), as was the practice in the mills located in the western and southern parts of India.

Explaining the nuances of production of sugar, the Chief Engineer of a mill said, "the quantity of sugar produced at a mill depends not only upon the installed capacity of the mill, but also on the quantity of sugarcane supplied and the recovery rate. The recovery rate in turn depends upon the processing technology and quality of sugar cane supplied. The quality of sugar cane supplied depends on the variety of seed used and the cultivation practices followed by the farmers. It also depends upon the time elapsed between actual harvesting of sugarcane by the farmers and its crushing at the mill. Transportation, maintenance and other logistics could, thus, make a lot of difference in a mill's financial performance".

The dependence of sugar mills on the vagaries of climate, obligation to accept the committed in-take of sugar cane from areas allotted, dependence on the Central Government for quota based release of sugar on monthly basis (both for levy sugar as well as free sales) made them carry inventory levels that were not the most economical quantities and affected their financial performance. Restriction on areas from where they could procure sugar cane, the quantity and the price at which they could procure it, made the task even more difficult.

Sugar mills could produce some downstream products such as processing of molasses, and press mud. Sugar manufacturing being a seasonal and labor-intensive activity, the mills had to carry a substantial burden of fixed costs. This could reduce if the mills could undertake some other activities. However, most of them could not do so because of factors, many of which were out of their direct control.

13.5 Contribution made by the Sugar Mills of UPSC and UPSF

The performance of a mill/company can be measured in primary, secondary and tertiary terms. In primary terms, the performance is reflected in its financial soundness, and the amount of profits accrued.

UPSC, with its 30 mills (5 did not operate in 1998-99) jointly produced 45m tonnes quintals sugar during 1998-99. The 31 mills of UPSF (1 did not operate) produced another 73m tonnes of sugar. In all thus, the mills produced 118 million tonnes of sugar during 1998-99, which formed a significant portion of domestic sugar production in India, and meets approx. 52% of total consumption of U.P., based upon the per capita consumption of 12.5 kg. The cane crushing performance of UPSC, measured in terms of Cane Crushing Index (CCI) compared favourably to that of private sector and cooperative sector mills (see exhibit 5a,5b,5c and 5d).

From the point of view of secondary benefits, the Sugar Group of mills had been doing reasonably well. It provided employment to more than 54,000 persons and thus supported approximately 3,00,000 dependents. The UPSC, UPFC mills were mostly located in backward areas. The mills collectively paid an excise duty of Rs. 390m and Cess/Trade tax to the tune of Rs.112m, which together constituted 67% of the total loss during the period 1994-95 to 1997-98. (see exhibit 6a). Much of this amount might not have otherwise been earned by the exchequer, as no private sector company could have ventured to invest in these remotely located areas or could have turned exploitative to

the cane growers. There was no major difference among the mills in the private sector and public sector in terms of default in payment of cane arrears (see exhibit 6b). Also, there had been no allegation on record of any tax/duty evasion by the Sugar Group.

The tertiary benefits accrued in terms of increased purchasing power of the people created on account of the employment provided by the mills, increased awareness about importance of education to the children, and discouragement to people from migrating to urban areas. There was also a large number of people supported indirectly. These include a large number of cane growers (roughly 11 million), who in turn supported as many families, besides supporting the local trade and economy as secondary and tertiary benefits. Given that many of these mills were located in remote and backward areas, it was not possible for the people who lose employment, to get alternative employment, at least not easily. The survival of the mills was, thus, important not only from the point of view of primary benefits they provided in terms of sugar production, but also from the view point of secondary and tertiary benefits they generated. From these points of view, it was not desirable to close down the mills.

As mentioned earlier all but few mills and thus the Corporation had been making net losses ever since their inception. As Sick Industries Control Act got modified in 1992 to cover public sector enterprises also, the UPSC came under BIFR in 1995 when the net worth was eroded. UPSF mills also performed no better. (However, since SICA was not applicable to them, UPSF and its mills did not get covered under BIFR). Thus, despite many positive roles being played by the mills, the poor performance could not sustain the survival of the mills for long. With the mills and the Corporation/ Federation as a whole making losses, it would have not been possible for them to continue even thus far, had the government as the owner not continued to fund the losses. By 1999, the situation had reached a state that the government could not fund the losses any more.

The question, thus arose, whether the mills should be closed down? If so, which ones. It was a difficult question indeed, in view of the fact that profit performance of all but a few, over the last two decades, had been unsatisfactory. There was a general belief that mills below a certain capacity, 2500, tonnes per day crushing capacity (t.p.d) were not viable. But performance of many mills, which had capacity above 2500 t.p.d, was equally unsatisfactory (see exhibit 3b and 5c). Hence, the capacity alone could not be the sole criteria for deciding the issue.

Indeed, some people felt that the move may prove to be counter-productive in certain ways. For, such an approach may perpetuate a thinking that mills above 2500 be allowed to continue simply because these mills enjoyed minimum economic size criterion, even though there may be more powerful forces that may not allow them to turn into profitable entities. On the other hand, some mills with installed capacity below 2500 t.p.d, but having enormous potential to perform on account of ease of input availability and the organisational commitment to performance, may be closed down. It would be unfortunate that they may had to meet this fate simply because they were unable to make it happen due to low installed capacity and obsolete technology, which can be increased more easily, (being a mechanistic, physical exercise), than that of

building a high performing organisation. "With some sincere managerial efforts even such mills may turn into profitable ones" said an executive.

13.6 Complexity of Sugar Business

Sugar industry is one of the most complex businesses in India. Understanding its complexity is an important factor for making any change effort. The complexity emanates from several factors. Commenting upon the factors affecting the performance of a sugar mill, the Joint Managing Director said, "the main input (sugar cane) is a highly perishable one. The juice starts drying up fast after the harvesting, putting heavy demands on time and place co-ordination between the farmers and the sugar mill. Cane must be transported to and crushed at the mill fast, otherwise the sugar recovery rate may go down at a rate as high as almost 1% a day as the temperature rises towards end of February. Harvesting is typically done between mid October to mid March".

The Chief Manager (Cane Development) of a mill said, "there are many agencies involved as intermediaries (such as cane directorate of the state government, co-operative societies issuing slips, mediating payment etc). Their interests are neither interlocked with those of the farmers, nor with those of sugar mills. The logistics arrangements are crucial for the success of a mill. However, they are normally not made by the mills, but by the farmers and their co-operatives. The Farmers' Co-operatives are not the Farmers' (cane growers) Co-operatives in the true sense. These are primarily the state sponsored ones. The farmers' stakes are very low (to the tune of 5%). The same holds true for sugar mill co-operatives. Almost 90% of the membership fee is subscribed by the state government. This attracts, at times, the unscrupulous brokers, who are neither concerned with the protection of the interest of the farmers, nor with that of the mills, and hence breed corruption and inefficient operations".

Supplementing him, the Marketing Manager said' "another factor that affects a mills financial performance is that the cane price in India is fixed by the Central Government on the recommendation by Central Agriculture Price Committee (CAPC). However, in the state of U.P., the State Government also announces a State Advised Price (SAP), which is 10-15% above the one fixed by the Central Government. The SAP is based upon aggregate level, devoid of specific consideration of quality (i.e. recovery rates) of the sugar cane supplied by different farmers to mills in different areas. The price in each year was higher than what the one announced by the Central government. The farmers were liable for penalty, if they did not bring sugarcane to the mills as per the quota allotted to them, but it rarely happened".

Sharing the problems of getting high quality sugar cane, the Chief Manager (Cane Development) said, "the fertility of land and irrigation techniques adopted plays a major role in the production of cane. It is observed that in U.P. about 30% of land is in low lying areas, which does not allow easy farming of sugarcane and its carriage to the mills during rainy season. Hence although there are two varieties of sugarcane viz. early and late varieties available, but the farmers are not able to reap the benefit of early variety (that has high sugar content) and ratoons. Both of these can help the mill for the initialization of operations and produce a higher recovery rate, as compared to late

variety. The cane department is engaged in developing superior quality of cane and seeds. It also distributes seeds to the farmer at very economical rates. However, the performance in terms of high juice variety comes to only 25% in the fields than it does on the experimental sites".

Commenting upon the factors that affect the efficiency of sugar cane production process, the Chief Chemist of a mill said, "the overall efficiency of a sugar mill depends upon the quantity of sugar produced from a unit of sugarcane supplied, which in turn is determined by the quality and quantity of sugarcane supplied, the technology used at the mill, and proper maintenance and running of the mill. The prosperity of mills also depends upon the production capacity of the mill and the cane availability (which in turn depends upon the cane area allotted, crop performance, farmers' commitment to supply the quantity undertaken, and the logistic arrangements).

"We must not forget an important fact", said the Managing Director. "sugar cane being an agro- product, is seasonal. We therefore, have to manage with 60% labour which not permanent employee. At the same time we have to retain skilled workers even in the off season, which increase costs. Further the sugarcane crop is cyclic in nature. One-year bumper crop is followed by two years of lean period, in bumper crop year the public sectors mills have to continue crushing. A system of key input procurement and main output disposal, constrained as described above, can make a mill carry finished good stock at too high a level in the years of bumper crop, entailing high working capital costs on the one hand and declining value of stock (due to deterioration) on the other. Once a mill makes loss, there is every possibility of its entering in to a vicious circle of mounting losses on account of increasing interest burden generated due to government funding the losses as short term loans".

"At the same time I feel that with government funding losses, over a period of time it had become a generally accepted culture here to justify losses by using alternative definition of profit such as cash profit, profit before depreciation, profit before interest and depreciation etc. This leads to camouflaging of operational inefficiencies; depriving the plant and machinery its' legitimate entitlement of modernization and renovation (by utilising depreciation to fund losses). This also deprive the owners of their entitlement of dividend etc., until a stage reaches that the owners become unwilling to fund losses (networth turning negative) or the mill becomes a BIFR case" he concluded.

13.7 Value Chain of Sugar Business

As mentioned above, sugar is one of the most complex businesses. What makes it complex is the variability of a large number of factors caused by the uncertainties of various kinds of external controls. The salient features of the value are described below.

Describing the critical input parameters that affect the performance of a mill, an executive said, "The location of the mill is one of the main reasons. The mills were acquired or opened more for political reasons than concern for viability of mills. Then there is the issue of varieties of cane, there are early and later varieties and ratoons. The adoption rate for good varieties does not go beyond 3% in most cases in UP. The

quality of land and irrigation is also an important factor. The eastern U.P. suffers from poor quality of land, poor yield and low recovery rates (8-9%). There is competition from adjacent private mills, which are able to draw larger proportion of sugar cane from their catchment areas. Another factor is the time lag between harvesting and crushing, which varies from 6 hours to 2 days that adversely affect the recovery rates. The mode of transport also affects the performance as changeover from collection centre to mills leads to losses in sucrose content.

Commenting on the critical parameters of the process of sugar manufacture, an executive said, "the critical factors here are the recovery rates. Capacity utilization, maintenance, procurement of cane, labour, the average time of crushing, the period of operation in a season, time lapsed between crushing of cane and production of sugar, handling and further processing of by- products, downtime of the mills are the other factors affect the financial performance".

Sharing his experiences the Marketing Manager said, "the critical parameters in the management of output in the Sugar business include the high cost of inventory, fixation of price of levy sugar by the government, the mode of transport used for sale of sugar. Other factors included are the management of waste and by-products, the taxes and duties changed and the sales restriction imposed by the government".

Talking of the interest burden, the Financial Adviser said, "if the financial institutions are convinced that the management of the mills can improve the performance of a mill, they may reduce or waive of the interest outstanding and even a part of the loan. The government may also do the same and also convert loan into equity. But the employees must also come forward to sacrifice and improve performance".

Commenting upon the complexities of the business the Secretary said, "because of so many factors affecting the performance of the mills , some natural and some man-made, it becomes difficult to pinpoint the reasons for mill's poor performance It is disturbing to learn the allegation that corruption is also one of the factors at some places for example maintenance, weighing etc. But we have to find some way to fix the responsibility and identify the areas where action lies. We must also be able to develop some sound theoretical basis to decide which mills are beyond redemption and whose performance could be improved. I have to submit a rehabilitation scheme to BIFR for its consideration. I am keen to develop a plan, which not only solicits support of financial institutions, banks, and the government (as owner) to reduce/waive their claim of interest, repayment etc. But a plan that also demands from the employees and management to stretch to perform and contain costs, and also provide them confidence that profitable performance is within their reach".

- Q1 Critically analyse the factors responsible for the performance of the mills. To what extent they are within the control of management of the mill/ UPSC?
- Q2 Should the Secretary advice BIFR for closure of all the mills and let the government get out from the business of doing business? Is complete privatisation of sugar manufacturing desirable at the present stage?
- Q3 Do you think the mills can revert back to normalcy without any financial

restructuring?

- Q4 If the government and financial institutions agree to waive their claim of interest and the government converts loans into equity, will the mills be profitable? What other measures may be taken to reduce costs?
- Q5. How does the recovery rate (i.e., sugar produced per unit of sugarcane crushed) affect the performance of a mill? Do you think that the recovery rate could be a yardstick for deciding whether or not to close down a loss making mill?
- Q6 In your view, where the action really lies for improving the performance of the mills?

Exhibit 1

A NOTE ON SUGAR INDUSTRY IN INDIA

The Indian sugar industry is the second largest industry in India after textiles. It has a very strong significance for Rural Development as sugarcane is a cash crop. This also has an enormous impact not only on fertilizer, pesticides, seeds, irrigation systems related products, and agricultural implements industry but also has a very high degree of impact on the consumer durable and non-durable goods as it provides that extra cash that is left after the consumption of other serial consumption. This industry is a buyer from 35 million farmers and has the potential to produce 3000 MW of power (see table 1).

Table 1
Sugar Industry – Its Importance to the Indian Economy 1997-98*

SL.NO.	DESCRIPTIONS	
1.	No. of Sugar units installed	464
2.	No. of cane growers including their dependents (Million)	35
3.	Average no. of cane growers supplying cane to each sugar unit	20000
4.	Annual payments to cane growers (US \$ Million)	3000
5.	Annual value of sugar production (US \$ Million)	5000
6.	Annual wage bill (US \$ Million)	375
7.	Annual contribution to the central exchequer (US \$ Million)	325
8.	Annual collection by State Governments (US \$ Million)	175

Table 2
Area, Yield, Cane and Sugar Production Since Inception*

YEAR	AREA UNDER SUGARCANE (Million Hectares)	YIELD (Tonnes/Hect are)	CANE PRODUCTION (Million Tonnes)	SUGAR PRODUCTION (Million Tonnes)
1930-31	1.2	30.9	36.4	0.1
1940-41	1.6	32.1	52.0	1.1
1950-51	1.7	40.5	69.2	1.1
1960-61	2.4	45.0	110.5	3.0
1970-71	2.6	48.3	126.4	3.7
1980-81	2.7	57.8	154.3	5.1
1990-91	3.7	65.4	241.1	12.0
1995-96	4.1	68.4	282.9	16.5
1996-97	4.0	66.1	267.5	12.9

* Source: ***Indian Sugar Industry***, Presentation by Dhruv M. Sawhney at the Autumn Tech. Meeting of the Bristish Society for Sugar cane Technologists, October 1998
1 Hectare = 2.47 Acres

The sugar industry started in 1930's. Many of obsolete mills could still be seen at production sites, as these mills were early startups and became sick, when they were taken over by the U.P. State Sugar Corporation. The growth of the industry is given in

table 2. There had been steady growth in the area sown under sugarcane, yield per hectare, cane production and sugar production except a marginal decline in the year 1996-97.

The sugar cane is predominantly produced in Uttar Pradesh Punjab, Haryana and Bihar in Northern Zone Maharashtra and Gujarat in Western Zone, and Tamil Nadu, Karnataka and Andhra Pradesh in Southern Zone. The productivity figures are shown in table 3.

Table 3
Area, Yield, Cane and Sugar Production in Major States in 1996-97*

ZONE/STATE	AREA UNDER CANE (Thousand Hectare)	YIELD (Tonnes/Hectare)	CANE PRODUCTION (Million Tonnes)	SUGAR PRODUCTION (Million Tonnes)
NORTH				
A. Uttar Pradesh	1 2014	59	118.6	4.1
B. Bihar	124	45	5.6	0.4
C. Punjab	173	62	11.0	0.6
D. Haryana	163	58	9.5	0.5
WEST				
A. Maharashtra	2 513	79	40.4	3.5
B. Gujarat	150	69	10.4	1.0
SOUTH				
A. Tamil Nadu	3 265	100	26.5	1.1
B. Karnataka	4 255	84	21.4	0.9
C. Andhra Pradesh	199	72	14.5	0.8
SUB TROPICAL ZONE	2400	59	140	5.9
TROPICAL ZONE	1600	80	128	7.0
1 Hectare = 2.47 Acres				

*Source: *Indian Sugar Industry*, Presentation by Dhruv M. Sawhney at the Autumn Tech. Meeting of the British Society for Sugar cane Technologists, October 1998.

The regional variations in sugar recovery rates and drawl percentages (factory cane consumption) are shown in table 4. The supply and demand situation is given in table 5, consumption in tables 6 and 7, capacity distribution in table 8, and International Sugar Prices are given in table 9.

Table 4
Regional Recoveries and Factory Cane Consumption@

ZONE/STATE	RECOVERY (%)		CANE CONSUMPTION BY FACTORY (%)	
	1996-97	1995-96	1996-97	1995-96
NORTH				
A. Uttar Pradesh	9.40	8.71	37	42
B. Bihar	9.23	8.82	70	77
C. Punjab	8.86	8.70	63	85
D. Haryana	8.83	8.35	59	67
WEST				
A. Maharashtra	11.11	10.49	77	110*
B. Gujarat	10.72	10.48	87	103**
SOUTH				
A. Tamil Nadu	8.94	8.34	44	56
B. Karnataka	10.54	9.85	39	52
C. Andhra Pradesh	10.22	9.54	52	59
ALL INDIA	9.90	9.43	49	62
* Cane from Karnataka had been sent to the Maharashtra Factories.				
** Cane from neighbouring states had come to the Gujarat Factories.				

Table 5
Supply and Demand Position of Sugar from Season 1988-89 to 1997-98@
(Figures in million tonnes)

SL NO	ZONE/STTE	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98*
1.	Opening stock as on 1 st October	2.4	1.2	2.2	3.3	4.9	3.2	3.1	5.6	7.9	6.5
2.	Production during the season (October – September)	8.7	10.9	12.0	13.4	10.6	9.8	14.6	16.4	12.9	12.8
3.	Imports	-	0.2	-	-	-	2.0	0.2	-	-	0.7
4.	Total availability	11.2	12.3	14.2	16.7	15.5	15.0	17.9	22.0	20.8	20.0
5.	Internal Consumption	9.9	10.2	10.7	11.2	11.9	11.9	12.3	13.1	13.9	14.7
6.	Exports	-	-	0.2	0.6	0.4	-	0.1	1.0	0.4	0.1
7.	Off-take	9.9	10.2	10.9	11.8	12.3	11.9	12.3	14.1	14.3	14.8
8.	Closing stock as on 30 th September	1.3	2.1	3.3	4.9	3.2	3.1	5.6	7.9	6.5	5.2
9.	Stock as % of Off-take	13.1	20.6	30.3	41.5	26.0	26.0	45.5	55.9	45.6	35.1
@ Source: <i>Indian Sugar Industry</i> , Presentation by Dhruv M. Sawhney at the Autumn Tech. Meeting of the British Society for Sugar cane Technologists, October 1998. * FORECAST											

Table 6
Sugar and Alternate Sweeteners: *

Per Capita Consumption (Illustrative List of States in 1995-96) (kg)

SL. NO.	STATE	SUGAR	ALTERNATE SWEETENERS	TOTAL
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1.	Punjab	33.7	11.0	44.7
2.	Haryana	26.9	10.0	36.9
3.	Uttar Pradesh	12.5	15.0	27.5
4.	Andhra Pradesh	10.3	8.6	18.9
	ALL INDIA (1995-96)	14.3	9.0	23.3
	ALL INDIA (1982-83)	9.1	12.2	21.3
	ALL INDIA (1969-70)	6.1	13.9	20.0

Table 7
Per Capita Consumption of Sugar in Urban and Rural Areas (1995-96)*
(Figures in Kg.)

SL. NO.	STATE	URBAN	RURAL	TOTAL
1.	Punjab	71.5	22.3	33.7
2.	Haryana	66.5	18.5	26.9
3.	Uttar Pradesh	35.2	10.4	12.5
4.	Andhra Pradesh	19.7	9.9	10.3
	ALL INDIA	31.5	11.5	14.3

Table 8
Capacitywise Distribution of Installed Sugar Units in 1997-98*
(Figures in nos.)

SL. NO.	STATE	BELOW 1250 TCD	1250 TO 2500 TCD	2501 TO 5000 TCD	5001 TO 10000 TCD	TOTAL NUMBER OF FACTORIES
	TROPICAL REGION					
1.	Andhra Pradesh	7	28	4	2	41
2.	Gujarat	-	13	5	2	20
3.	Karnataka	2	23	5	2	32
4.	Maharashtra	2	90	26	4	120
5.	Tamil Nadu	1	25	9	-	35
	TOTAL	12	179	49	10	248
	SUB-TROPICAL REGION					
1.	Bihar	14	13	1	-	28
2.	Haryana	-	10	2	1	13
3.	Punjab	1	18	3	-	22
4.	Uttar Pradesh	22	69	20	11	122
	TOTAL	37	110	26	12	185
	OTHERS	12	19	-	-	31
	ALL INDIA	61	308	75	22	464

*Source: *Indian Sugar Industry*, Presentation by Dhruv M. Sawhney at the Autumn Tech. Meeting of the British Society for Sugar cane Technologists, October 1998.

Table 9
Domestic Retail Price of Sugar in Indian and Other Countries in 1995-96*

COUNTRY	PRICE EQUIVALENT Rs./Kg.
Japan	66.00
Switzerland	38.00
France	36.00

United Kingdom		33.00
Hongkong		32.00
Germany		31.00
Sweden		31.00
South Korea		29.00
USA		28.00
China		22.00
Bangladesh		22.00
Nepal		21.00
Australia		21.00
Indonesia		21.00
South Africa		20.00
Philippines		19.00
Sri Lanka		18.00
Thailand		18.00
Malaysia		16.00
Brazil		15.00
India	PDS-9.05	
	Free-14.00	12.00
AVERAGE		26.00
Rs.36.00 = US \$ 1 in 1995-96		

*Source: *Indian Sugar Industry*, Presentation by Dhruv M. Sawhney at the Autumn Tech. Meeting of the British Society for Sugar cane Technologists, October 1998.

From these tables, it may be inferred that the consumption and production of sugar is likely to grow at the rate of about 5% per annum. Also, that the Indian Sugar Industry is highly competitive internationally. ISMA claims that Indian Sugar Industry is the 3rd most efficient sugar industry in the world and that deregulation will improve its global market position. The sub-tropical regions like U.P. and Bihar could improve their sugar cane quality, sugar yields, and recovery rates along with increased drawl percentage that would reduce the share of substitute sweeteners. The all India recovery rate may go above 10% including these states. It is a sad fact that at present U.P. produces highest sugar cane, but its recovery rates are below all India average. But, the situation is likely to improve during next 10 years. Based on the observations and the data presented here, the future sugar scenario in year 2006-2007 appears as follows:

1. Area under Sugar Cane : 4.5 million hectares
2. Cane yield : 82 tonnes per hectares
3. Cane Production : 370 million tonnes
4. Availability to sugar factories : 247 million tonnes
5. Sugar Production : 27 million tonnes
6. No. of factories : 350
7. Domestic sugar consumption : 24.5 million tonnes
8. Exports : 2.5 million tonnes
9. Recovery percentage : 11%
10. Drawl percentage for factories : 67%

SUGAR INDUSTRY: THE SCENERIO IN U.P.

Uttar Pradesh, as pointed out earlier is one of the significant contributors to the production of sugar cane and sugar, not only in India, but also in the whole world. The sugar industry in U.P. comprises three sectors, the private sector mills, the public sector mills and the cooperative sector mills. Tables 10 and 11 give a comparative position of the mills in the three sectors.

Table 10
Sectoral Comparisons on Uttar Pradesh (U.P.) *
Physical Parameters (1997-98)

Sector	No. of Mills	Average Capacity	% of Total Installed capacity	% Cane Crushed	DRAWL %	CAPACITY UTILIZED %
Corporation	35 (28%)	1643	15.4	14.4	23.9	68.3
Federation	32 (25%)	2188	18.7	21.6	25.9	83.9
Private	66 (52%)	3654	64.4	63.5	34.0	71.6
Central Government	4 (3%)	1389	1.5	0.5	16.8	23.9
TOTAL	127	2947	100.00	100.00	30.00	72.7

Table 11
Comparative Picture of Corporation/Cooperative/Private Mills (1997-98)*
Installed Capacity

Sector	#Mills	<1250	≥1250 <2500	≥2500 <5000	≥5000 <10000	≥10000	Total TCD	Cane Crushed lacs Qntls.	Utilized %
Corporation	35	15	9	11	-	-	57518 (2070*)	589	28.5
Cooperative	32	-	11	21	-	-	70000 (2520*)	882	35.0
Private	55	-	-	36	14	6	241150 (8681*)	2590	29.8

* LAC QNTLS ON 360 DAYS BASIS

*Source: Office of Cane Commssioner, U.P.

Sugar Group of Mills

Exhibit 2

Profit of the Mills During 1997-98

Rs. in Lakhs*

CORPORATION			COOPERATIVE		
	Mill	Net profit/ Loss		Mill	Net Profit/ Loss
1	Doiwala	-227.82	36	Sarsawa	226.6
2	Saharanpur	-30.82	37	Nanauta	310.51
3	Rohana	-325.73	38	Morna	484.1
4	Sakhoti	-109.17	39	Baghpat	96.31
5	Maliana	-619.21	40	Ramala	273.9
6	Mohiuddinpur	-714.36	41	Anupshahar	101.99
7	Bulandshahar	-948.33	42	Satha	46.93
8	Chatta	-44.95	43	Sneh Road	600.73
9	Bijnor	50.09	44	Gajraula	222.58
10	Chandpur	257.48	45	Bilaspur	23.02
11	Amroha	113.75	46	Bajpur	442.94
12	Rampur	-585.4	47	Nadehi	581.53
13	Kiccha	360.61	48	Sitarganj	181.71
14	Bareilly	-626.9	49	Gadarpur	434.85
15	Hardoi	-682.67	50	Majhola	-14.96
16	Ghatampur	-291.78	51	Bisalpur	197.88
17	Maholi	-991.26	52	Puranpur	-286.31
18	Barabanki	-759.29	53	Semikhera	153.39
19	Burhwal	-544.42	54	Badaun	75.05
20	Dariyapur	-110.71	55	Qaimganj	-200.92
21	Jarwalroad	-760	56	Tilhar	-162.02
22	Nawabganj	-990.76	57	Powayan	-266.09
23	Munderwa	-501.82	58	Belrayan	370.32
24	Ghughli	-576.86	59	Sampuranagar	463.82
25	Siswabazar	-163.33	60	Mahmoodabad	-283.39
26	Pipraich	-708.18	61	Nanpara	-201.49
27	Baitalpur	-424.82	62	Aurai	-411.51
28	Deoria	-617.39	63	Dhuriapar	-1719.85
29	Bhatni	-548.23	64	Rasra	-185.08
30	Khadda	21.44	65	Sathiaon	-372.33
31	Chittauni	-560	66	Ghosi	-871.46
32	Laxmiganj	-528.24	67	Sultanpur	-204.12
33	Ramkola (K)	-590.41			
34	Nandganj	-584.45			
35	Shahganj	-606.43			
	Total	-14970.37		Total	108.63

*Rs. 10 Lakhs= Rs. 1 million

Sugar Group of Mills

Exhibit 3

Number of years in which the mills made profits during 1993-94 to 1998-99.

No. of times profit made	Corporation (no. of mills having made profits)		Federation (no. of mills having made profits)	
	NET PROFIT	OPERATING PROFIT	NET PROFIT	OPERATING PROFIT
1	3	3	6	4
2	3	3	3	5
3	3	3	9	7
4	-	3	3	6
5	1	1	3	5
6	-	-	1	4
0	25	22	7	1
	35	35	32	32

Exhibit 4

UPSC Mills in Profit over 1993-99 period

YEAR	Mills having (+) Earnings before Interest and Depreciation	Mills having (+) Earning before Depreciation	Mills having Net Profits
1993-94	29	22	20
1994-95	27	23	18
1995-96	11	22	4
1996-97	4	3	1
1997-98	22	21	19
1998-99	14	23	8

Exhibit 5

Cumulative Losses of UPSC Mills

Rs. in Lakhs

Year	Equity Share	Net Loss during the year	Accumulated Loss upto the year	Net worth
1995-96	47576	12037	68303	-20727
1996-97	47576	19730	68032	-40456
1997-98	47576	14449	102480	-54914
1998-99	47576	18788	121260	-73652
1999-2000	47576	16097	137365	-89749

Sugar Group of Mills
Exhibit 6
Year of Establishment

CORPORATION					COOPERATIVE				
		Year Estd	Installed Cap.(TPD)				Year Estd.	Installed Cap. (TPD)	
			Initial	Expanded				Initial	Expanded
1	Doiwala	1933	900	2500	36	Sarsawa	1961-62	1500	2500
2	Saharanpur	1938	1320	2500	37	Nanauta	1978-79	1250	2500
3	Rohana	1933	1300		38	Morna	1984-85	1250	2500
4	Sakhoti	1933	1000	1800	39	Baghpat	1960-61	1800	2500
5	Maliana	1944	1219		40	Ramala	1978-79	1250	2500
6	Mohiuddinpur	1933	1000	2500	41	Anupshahar	1977-78	2000	2500
7	Bulandshahar	1954	1250	2500	42	Satha	1976-77	1250	
8	Chatta	1978	1250	2500	43	Sneh Road	1989-90	2500	3000
9	Bijnor	1934	1100	2500	44	Gajraula	1983-84	1250	2500
10	Chandpur	1978	1250	2500	45	Bilaspur	1977-78	2000	
11	Amroha	1946	1925	3000	46	Bajpur	1958-59	1250	2500
12	Rampur	1933	2200	2200	47	Nadehi	1976-77	2000	
13	Kiccha	1974	2000	4000	48	Sitarganj	1984-85	1250	2500
14	Bareilly	1932	1016		49	Gadarpur	1986-87	1250	2500
15	Hardoi	1935	1800		50	Majhola	1965-66	2000	
16	Ghatampur	1988	1250		51	Bisalpur	1977-78	3000	4000
17	Maholi	1932	1524		52	Puranpur	1985-86	1250	2500
18	Barabanki	1945	1000		53	Semikhera	1984-85	1250	2500
19	Burhwal	1931	800		54	Badaun	1977-78	1250	
20	Dariyapur	1937	1250	1500	55	Qaimganj	1975-76	1250	
21	Jarwalroad	1933	900	2500	56	Tilhar	1981-82	1250	2500
22	Nawabganj	1932	1100		57	Powayan	1987-88	1250	2125
23	Munderwa	1932	716		58	Belrayan	1980-81	1250	2500
24	Ghughli	1926	982		59	Sampuranagar	1985-86	1250	2500
25	Siswabazar	1933	900	2500	60	Mahmoodabad	1982-83	1250	2500
26	Pipraich	1932	800		61	Nanpara	1984-85	1250	2500
27	Baitalpur	1933	914		62	Aurai	1971-72	1250	
28	Deoria	1937	965		63	Dhuriapar	1997-98	2500	
29	Bhatni	1921	1016		64	Rasra	1975-76	1250	
30	Khadda	1933	768	1600	65	Sathiaon	1975-76	1250	
31	Chittauni	1934	800		66	Ghosi	1984-85	1250	2500
32	Laxmiganj	1928	900		67	Sultanpur	1984-85	1250	
33	Ramkola (K)	1932	792						
34	Nandganj	1973	1250						
35	Shahganj	1932	1016						

SuSugar Group of Mill:

Exhibit 7
Technology and Performance of the Mills of Sugar Corporation

		Yr. Estd.	Yr of Last mod/exp	No. of Times mod./exp	Recovery %		Drop in Recov. %	Capacity tpd	Crushing Index(C.I.)	
					97-98	98-99			97-98	98-99
1	Doiwala	1933	1990	1	8.9	8.6	2.9	2500.0	1.2	1.3
2	Saharanpur	1938	1993	1	9.3	8.7	6.6	2500.0	1.3	1.5
3	Rohana	1933			9.6	9.2	4.1	1300.0	1.8	1.7
4	Sakhoti	1933	1998	2	9.5	9.3	1.7	1800.0	1.2	1.3
5	Maliana	1944			8.8	8.0	9.5	1219.0	1.0	0.8
6	Mohiuddinpur	1933	1993	2	9.3	8.6	6.9	2500.0	1.2	1.2
7	Bulandshahar	1954	1997	1	8.6	7.8	9.4	2500.0	0.9	0.7
8	Chatta	1978	1991	1				2500.0	1.1	0.8
9	Bijnor	1934	1987	1	9.4	8.9	5.5	2500.0	1.7	1.6
10	Chandpur	1978	1998	2	9.4	8.8	6.2	2500.0	1.3	1.4
11	Amroha	1946	1988	1	9.4	8.7	7.3	3000.0	1.0	0.9
12	Rampur	1933			8.5	7.0	17.2	2200.0	0.9	0.2
13	Kiccha	1974	1993	2	9.5	8.9	5.6	4000.0	1.2	1.3
14	Bareilly	1932			7.7	-		1016.0	0.6	0.0
15	Hardoi	1935			8.2	7.5	7.7	1800.0	0.5	0.4
16	Ghatampur	1988			9.5	8.5	10.7	1250.0	0.7	0.7
17	Maholi	1932			7.1	-		1524.0	0.4	0.0
18	Barabanki	1945			6.0	-		1000.0	0.3	0.0
19	Burhwal	1931			8.6	7.5	12.8	813.0	0.5	0.6
20	Dariyapur	1937	1998	1	9.9	9.0	8.9	1250.0	1.0	1.0
21	Jarwalroad	1933	1993	1	9.3	8.9	4.8	2500.0	0.8	1.1
22	Nawabganj	1932			7.3	-		1100.0	0.5	0.0
23	Munderwa	1932			8.5	7.4	12.9	711.0	1.1	0.8
24	Ghughli	1926			8.5	7.9	7.4	982.0	0.8	0.7
25	Siswabazar	1933	1991	1	8.7	8.2	6.6	2500.0	1.1	0.9
26	Pipraich	1932			8.5	7.4	12.8	800.0	1.0	0.8
27	Baitalpur	1933			8.8	7.7	12.4	914.0	1.2	1.1
28	Deoria	1937			8.1	7.2	11.7	965.0	0.8	0.7
29	Bhatni	1921			7.9	7.2	8.9	1016.0	0.9	0.7
30	Khadda	1933	1998	2	8.9	8.3	7.3	1600.0	1.5	1.2
31	Chittauni	1934			8.5	7.6	11.0	800.0	1.4	0.9
32	Laxmiganj	1928			8.5	7.6	10.1	900.0	1.0	0.7
33	Ramkola (K)	1932			8.3	7.3	12.2	792.0	1.2	0.9
34	Nandganj	1973			7.5	-		1250.0	0.3	0.0
35	Shahganj	1932			7.5	7.4	1.7	1016.0	0.6	0.4
	Total							27908.0		
	Average				8.6	8.1	8.4			

Sugar Group of Mills

Exhibit 8

Profit Performance of UPSC Mills							Profit Performance of UPSF Mills						
Unit	Installed Capacity	Crushg Index#	6years		Cummu. P/L	P/L for 97-98	Unit	Installed Caacity	Crushg Index#	6years		Cummu. P/L	P/L for 97-98
			Optg P/L	Net P/L						Optg P/L	Net P/L		
			Rs. in Lakhs*							Rs. in Lakhs*			
Doiwala	2500	1.34	3	1	-31	-2	Sarsawa	2500	1.86	5	4		2
Saharanpur	2500	1.45	1	0	-45	-0.3	Nanauta	2500	1.51	6	5		3
Rohana	1300	1.73	2	2	-10	-3	Morna	2500	1.53	5	3		5
Sakhoti	1800	1.29	2	1	-33	-1	Baghpat	2500	1.41	5	1		1
Maliana	1219	0.75	0	0	-41	-6	Ramala	2500	1.86	4	4		3
Mohiuddinpur	2500	1.16	0	0	-59	-7	Anupshahar	2500	1.39	4	3		1
Bulandshahar	2500	0.67	0	0	-46	-9	Satha	1250	1.06	3	1		0.4
Chatta	2500	0.84	2	0	-25	-0.5	Sneh Road	2500	1.85	6	5		6
Bijnor	2500	1.63	4	3	-25	0.5	Gajraula	2500	1.10	4	2		2
Chandpur	2500	1.39	5	5	26	3	Bilaspur	2000	1.09	4	3		0.2
Amroha	3000	0.87	3	2	-38	1	Bajpur	4000	1.41	5	3		4
Rampur	2200	0.21	1	1	-42	-6	Nadehi	2000	1.91	6	5		6
Kiccha	4000	1.25	4	3	-4	4	Sitarganj	2500	1.05	3	3		2
Bareilly	1016	0.00	0	0	-41	-6	Gadarpur	2500	1.30	4	2		4
Hardoi	1800	0.38	0	0	-48	-7	Majhola	2000	1.05	3	0		0.1
Ghatampur	1250	0.68	0	0	-24	-3	Bisalpur	2500	1.14	3	3		2
Maholi	1524	0.00	0	0	-52	-10	Puranpur	2500	0.79	2	1		-3
Barabanki	1000	0.00	0	0	-50	-8	Semikhera	2500	1.13	4	3		2
Burhwal	813	0.60	0	0	-33	-5	Badaun	1250	1.17	3	3		1
Dariyapur	1250	0.98	0	0	-23	-1	Qaimganj	1250	0.74	1	1		-2
Jarwalroad	2500	1.08	0	0	-53	-7	Tilhar	2500	0.98	3	4		-2
Nawabganj	1100	0.00	0	0	-44	-10	Powayan	1250	0.67	2	0		-3
Munderwa	711	0.76	0	0	-31	-5	Belrayan	2500	1.27	5	3		4
Ghughli	982	0.67	0	0	-31	-6	Sampuranagar	2500	1.42	6	6		5
Siswabazar	2500	0.87	3	2	-31	-2	Mahmoodabad	2500	1.21	3	1		-3
Pipraich	800	0.83	0	0	-42	-7	Nanpara	2500	0.68	2	1		-2
Baitalpur	914	1.09	0	0	-25	-4	Aurai	1250	0.45	0	0		-4
Deoria	965	0.73	0	0	-32	-6	Dhuriapar	2500	0.08	1	0		-17
Bhatni	1016	0.73	0	0	-43	-5	Rasra	1250	0.71	1	0		-2
Khadda	1600	1.24	4	3	-6	-6	Sathiaon	1250	0.47	1	0		-4
Chittauni	800	0.94	0	0	-23	-6	Ghosi	2500	0.32	2	0		-9
Laxmiganj	900	0.71	1	0	-19	-5	Sultanpur	1250	0.71	2	2		-2
Ramkola (K)	792	0.86	0	0	-31	-6							
Nandganj	1250	0.00	0	0	-50	-6							
Shahganj	1016	0.43	0	0	-25	-6							
Total	57518						Total	70000					

* 10 Lakh= 1 million

see exhibit 5 for details

Sugar Group of Mills

Exhibit 9

Profit Performance of UPSC Mills							Profit Performance of UPSF Mills						
Unit	Instal led Capa	Crushg Index#	6years P/L		Cummu. P/L	P/L for 97-98	Unit	Instal led Caaa	Crushg Index#	6years P/L/		Cummu. P/L	P/L for 97-98
			Optg P/L	Net P/L						Optg P/L	Net P/L		
			Rs. in Lakhs*							Rs. in Lakhs*			
Doiwala	2500	1.34	3	1	-31	-2	Sarsawa	2500	1.86	5	4		2
Saharanpur	2500	1.45	1	0	-45	-0.3	Nanauta	2500	1.51	6	5		3
Rohana	1300	1.73	2	2	-10	-3	Morna	2500	1.53	5	3		5
Sakhoti	1800	1.29	2	1	-33	-1	Baghpat	2500	1.41	5	1		1
Maliana	1219	0.75	0	0	-41	-6	Ramala	2500	1.86	4	4		3
Mohiuddinpur	2500	1.16	0	0	-59	-7	Anupshahar	2500	1.39	4	3		1
Bulandshahar	2500	0.67	0	0	-46	-9	Satha	1250	1.06	3	1		0.4
Chatta	2500	0.84	2	0	-25	-0.5	Sneh Road	2500	1.85	6	5		6
Bijnor	2500	1.63	4	3	-25	0.5	Gajraula	2500	1.10	4	2		2
Chandpur	2500	1.39	5	5	26	3	Bilaspur	2000	1.09	4	3		0.2
Amroha	3000	0.87	3	2	-38	1	Bajpur	4000	1.41	5	3		4
Rampur	2200	0.21	1	1	-42	-6	Nadehi	2000	1.91	6	5		6
Kiccha	4000	1.25	4	3	-4	4	Sitarganj	2500	1.05	3	3		2
Bareilly	1016	0.00	0	0	-41	-6	Gadarpur	2500	1.30	4	2		4
Hardoi	1800	0.38	0	0	-48	-7	Majhola	2000	1.05	3	0		0.1
Ghatampur	1250	0.68	0	0	-24	-3	Bisalpur	2500	1.14	3	3		2
Maholi	1524	0.00	0	0	-52	-10	Puranpur	2500	0.79	2	1		-3
Barabanki	1000	0.00	0	0	-50	-8	Semikhera	2500	1.13	4	3		2
Burhwal	813	0.60	0	0	-33	-5	Badaun	1250	1.17	3	3		1
Dariyapur	1250	0.98	0	0	-23	-1	Qaimganj	1250	0.74	1	1		-2
Jarwalroad	2500	1.08	0	0	-53	-7	Tilhar	2500	0.98	3	4		-2
Nawabganj	1100	0.00	0	0	-44	-10	Powayan	1250	0.67	2	0		-3
Munderwa	711	0.76	0	0	-31	-5	Belrayan	2500	1.27	5	3		4
Ghughli	982	0.67	0	0	-31	-6	Sampuranagar	2500	1.42	6	6		5
Siswabazar	2500	0.87	3	2	-31	-2	Mahmoodabad	2500	1.21	3	1		-3
Pipraich	800	0.83	0	0	-42	-7	Nanpara	2500	0.68	2	1		-2
Baitalpur	914	1.09	0	0	-25	-4	Aurai	1250	0.45	0	0		-4
Deoria	965	0.73	0	0	-32	-6	Dhuriapar	2500	0.08	1	0		-17
Bhatni	1016	0.73	0	0	-43	-5	Rasra	1250	0.71	1	0		-2
Khadda	1600	1.24	4	3	-6	-6	Sathiaon	1250	0.47	1	0		-4
Chittauni	800	0.94	0	0	-23	-6	Ghosi	2500	0.32	2	0		-9
Laxmiganj	900	0.71	1	0	-19	-5	Sultanpur	1250	0.71	2	2		-2
Ramkola (K)	792	0.86	0	0	-31	-6							
Nandganj	1250	0.00	0	0	-50	-6							
Shahganj	1016	0.43	0	0	-25	-6							
Total	57518						Total	70000					

* 10 Lakh= 1 million # see exhibit 5 for details

Sugar Group of
Mills

Exhibit 10

Cane Area Allotment, Cane Availability, Cane Produced and Crushing Patterns*

1997-98 (Bumper Crop Year)

	Days of Opern	Cane/ Area/ Capa City	Cane Prod/ Capa City	Cane Avail able/ cane Produced %	Cane Crus hed/Cane Available %	Cane Crus hed/ Cane Produced %	Cane Avail/ Capacity
Corp	124	4.7	5.8	42	101	41	0.94
Federation	135	9	5.8	27	107	28	1.48
Private	152	8.5	5.6	29	95	30	1.33

1998-99 (Lean Year)

	Days of Opern	Cane/ Area/ Capa City	Cane Prod/ Capa City	Cane Avail able/ cane Produced %	Cane Crus hed/Cane Available %	Cane Crus hed/ Cane Produced %	Cane Avail/ Capacity
Corp	110	6.4	5.5	37	81	29	1.2
Federation	115	7.3	5.7	31	85	26	1.3
Private	135	5	6	45	99	44	1.2

Exhibit 11

Cane Crushing Index (CCI) = Cane Crushed (lakh tonnes) / Installed Capacity of Mills
(tonnes per day)

Crush ing Index	<u>Categorisation of mills based upon Crushing Performance</u>
2.00 & above	Super
≤1.50 but <2.00	High
≤1.00 but <1.50	Medium
≤0.50 but <1.00	Low
≥0.50	Poor

Exhibit 12

	Corporation	Federation	Private	Central government
Super	-	-	2	-
High	3	9	3	-
<u>Medium</u>	10	12	28	-
Low	9	10	13	1
Poor	5	1	10	3
Total	35	32	56	4

Exhibit 13

	CORPORATION						FEDERATION						PRIVATE					
	S	H	M	L	P	T	S	H	M	L	P	T	S	H	M	L	P	T
<1000	-	-	6	3	-	9	-	-	-	-	-	-	-	-	-	-	-	0
<2500 & ≥1000	-	2	5	3	5	15	-	1	5	5	-	11	-	-	-	-	-	0
=2500	-	1	6	2	-	9	-	8	6	5	1	20	2	-	-	5	9	2
<5000 & ≥2500	-	-	1	1	-	2	-	-	1	-	-	1	-	1	4	6	1	1
=5000	-	-	-	-	-	-	-	-	-	-	-	0	-	2	6	2	-	1
<10000 & ≥5000	-	-	-	-	-	-	-	-	-	-	-	0	-	-	4	-	-	4
=10000	-	-	-	-	-	-	-	-	-	-	-	0	-	-	6	-	-	6
TOTAL	-	3	1	9	5	35	-	9	1	1	1	32	2	3	2	1	1	5

Exhibit 14

	CORPORATION		FEDERATION		PRIVATE		TOTAL	
	2500	>2500 & ≤5000	2500	>2500 & ≤5000	2500	>2500 & ≤5000	2500	>2500 & ≤5000
Super	-	-	-	-	2	-	2	-
High	1	-	8	-	-	1	9	1
Medium	6	1	6	1	8	4	20	6
Low	2	1	5	-	5	6	12	7
Poor	-	-	1	-	9	1	10	1
Total	9	2	20	1	24	12	53	15

Sugar Group of Mills
Exhibit 15
Crushing Performance of the Mills

	Corporation	Cap	Crushd.	Index	Categ	Federation	Cap	Crushd.	Index	Categ	Private	Cap	Crushd.	Index	Categ	Private	Cap	Crushd.	Index	Categ			
1	Doiwala	2500	30.31	1.21	M	36	Sarsawa	2500	42.46	1.70	H	67	Iqbalpur	4000	43.24	1.08	M	100	Aira	5000	54.8	1.10	M
2	Saharanpur	2500	32.33	1.29	M	37	Nanauta	2500	42.47	1.70	H	68	Lahaksar	5000	73.94	1.48	M	101	Pallia	5000	80.4	1.61	H
3	Rohana	1300	23.49	1.81	H	38	Morna	2500	38.52	1.54	H	69	Deoband	10000	100.68	1.01	M	102	Azavapur	3125	22	0.70	L
4	Sakhoti	1800	21.11	1.17	M	39	Baghpat	2500	37.02	1.48	M	70	Todarpur	2500	35.93	1.44	M	103	Hargaon	5000	59.4	1.19	M
5	Maliana	1219	11.94	0.98	L	40	Ramala	2500	46.45	1.86	H	71	Mansurpur	4000	59.83	1.50	H	104	Biswan	2500	51	2.04	S
6	Mohiuddinpur	2500	29.05	1.16	M	41	Anupshahar	2500	42.94	1.72	H	72	Khatauli	10000	134.64	1.35	M	105	Ramgarh	3125	28.1	0.90	L
7	Bulandshahar	2500	23.05	0.92	L	42	Satha	1250	16.62	1.33	M	73	Shamli	5000	89.76	1.80	H	106	Kamalapur	2500	0	0.00	P
8	Chatta	2500	27.24	1.09	M	43	Sneh Road	2500	22.81	0.91	L	74	Titawi	5000	74	1.48	M	107	Razagaon	5000	27.7	0.55	L
9	Bijnor	2500	41.67	1.67	H	44	Gajraula	2500	27.62	1.10	M	75	Uoon	2500	32.29	1.29	M	108	Motinagar	2500	26.2	1.05	M
10	Chandpur	2500	33.54	1.34	M	45	Bilaspur	2000	24.16	1.21	M	76	Tikaola	2500	0	0.00	P	109	Chilwaria	2500	17.2	0.69	L
11	Amroha	3000	29.5	0.98	L	46	Bajpur	4000	55.89	1.40	M	77	Daurala	6500	94.36	1.45	M	110	Maizapur	2500	9.38	0.38	P
12	Rampur	2200	19.63	0.89	L	47	Nadehi	2000	34.63	1.73	H	78	Mawana	10000	124.97	1.25	M	111	Tulsipur	2500	26	1.04	M
13	Kiccha	4000	48.7	1.22	M	48	Sitarganj	2500	30.44	1.22	M	79	Malakpur	2500	0	0.00	P	112	Balrampur	####	114	1.14	M
14	Bareilly	1016	6.23	0.61	M	49	Gadarpur	2500	38.03	1.52	H	80	Modinagar	2500	54.25	2.17	S	113	Babhnan	5500	70.6	1.28	M
15	Hardoi	1800	8.73	0.49	P	50	Majhola	2000	25.59	1.28	M	81	Simbhaoli	7500	86.63	1.16	M	114	Khalilabad	2500	5.5	0.22	P
16	Ghatampur	1250	8.31	0.66	L	51	Bisalpur	2500	31.11	1.24	M	82	Agauta	3200	27.59	0.86	L	115	Basti	5000	42.6	0.85	L
17	Maholi	1524	5.52	0.36	P	52	Puranpur	2500	18.61	0.74	L	83	Dhampur	10000	135.12	1.35	M	116	Walterganj	2500	8.59	0.34	P
18	Barabanki	1000	3.06	0.31	P	53	Semikhera	2500	30.38	1.22	M	84	Seohara	10000	116.54	1.17	M	117	Thuthibari	2500	0	0.00	P
19	Burhwal	813	4.42	0.54	L	54	Badaun	1250	17.28	1.38	M	85	Bundki	5000	53.33	1.07	M	118	Sardarnagar	3200	10.9	0.34	P
20	Dariyapur	1250	12.82	1.03	M	55	Qaimganj	1250	8.91	0.71	L	86	Belari	2500	17.39	0.70	L	119	Pratappur	2500	29.6	1.18	M
21	Jarwalroad	2500	19.64	0.79	L	56	Tilhar	2500	23.12	0.92	L	87	Majhawali	2500	35.02	1.40	M	120	Captainganj Ramkola (P)	4400	31	0.70	L
22	Nawabganj	1100	5.37	0.49	P	57	Powayan	1250	12.73	1.02	M	88	Agwanpur	2500	0	0.00	P	121		3500	35.3	1.01	M
23	Munderwa	711	7.8	1.10	M	58	Belrayan	2500	41.96	1.68	H	89	Dhanaura	2500	22.89	0.92	L	122	Seorahi	2500	31.2	1.25	M
24	Ghughli	982	7.87	0.80	L	59	Sampuranagar	2500	45.07	1.80	H	90	Asmauli	4000	31.32	0.78	L						
25	Siswabazar	2500	27.4	1.10	M	60	Mahmoodabad	2500	28.51	1.14	M	91	Kashipur	2500	24.17	0.97	L						
26	Pipraich	800	8.06	1.01	M	61	Nanpara	2500	17.3	0.69	L	92	Pilibhit	3100	44.06	1.42	M						
27	Baitalpur	914	11.05	1.21	M	62	Aurai	1250	6.55	0.52	L	93	Baheri	5000	74.71	1.49	M						
28	Deoria	965	7.97	0.83	L	63	Dhuriapar	2500	7.13	0.29	P	94	Meerganj Nawabganj (B)	3500	36.38	1.04	M						
29	Bhatni	1016	8.93	0.88	M	64	Rasra	1250	9.15	0.73	L	95		2500	9.01	0.36	P						
30	Khadda	1600	24.71	1.54	H	65	Sathiaon	1250	10.78	0.86	L	96	Neoli	2500	16.34	0.65	L						
31	Chittauni	800	10.94	1.37	M	66	Ghosi	2500	12.47	0.50	L	97	Rosa	2500	29.88	1.20	M						
32	Laxmiganj	900	9.2	1.02	M	66	Sultanpur	1250	11.58	0.93	L	98	Roopapur	3500	20.42	0.58	L						

33	Ramkola (K)	792	9.31	1.18	M						99	Gola	9000	106.2	1.18	M						
34	Nandganj	1250	3.61	0.29	P																	
35	Shahganj	1016	6.49	0.64	M																	

Sugar Group of Mills
Exhibit 16
Excise Duty, Cess Paid and Net Profits/ Losses
from 1994-95 to 1997-98 (Rs. in Cr.)

	Excise	Cess	Total Recovery	Net Profit/ Loss
Corporation	116.3	24.4	140.7	-(527..9)
Federation	274.5	88.2	362.7	-(229.9)
Total	390.8	112.6	503.4	-(757.8)

Exhibit 17
Cane Price Arrears and Effect Thereof in 1997-98*

NAME	#MILLS	MILLS IN DEFAULT	CANE PRICE ARREARS %	REDUCTION IN REQU. DUE TO ARREARS
Corporation	35	15	5.69	7%
Cooperative	32	15	2.01	2.6%
Private	55	15	2.61	3.72%

*Source: Office of the Cane Commissioner, U.P.

Exhibit 18
Cost Per Bag (Rs.) for UPSC Mills (1997-98)

Installed Capacity	Sugar Prod.	Cane Cost	Mfg. Expenses	Packg. Exp.	Power/Fuel	Maint./Repairs	Salary/Wages	Depre	Interest on govt. loan	AdmExp	Wkg. Capital Interest	Int. on loan form FIs	Selling Exp	Total Cost/bag	Recovery per bag *
2500	3.4	854	10	26	14	47	121	28	0	10	51	0	6	1167	
2500	4	827	9	26	15	52	101	14	25	8	93	1	6	1175	
4000	4.8	857	11	26	15	44	124	24	0	10	107	0	7	1224	
3000	3.3	845	12	27	25	66	127	18	27	11	101	0	8	1267	
1600	2.4	901	13	27	20	54	153	11	26	12	91	0	9	1315	
1500	2.1	852	9	27	23	68	173	21	35	16	115	7	8	1355	
2500	3.2	928	13	26	14	45	110	34	71	14	103	29	8	1394	
1300	2.5	838	46	27	36	46	209	5	35	8	126	0	8	1382	
2500	3.7	874	10	29	12	34	124	57	44	11	132	77	9	1412	
1600	1.6	869	11	26	36	45	227	9	76	13	92	0	9	1413	
2500	2.8	935	9	27	21	36	126	30	19	20	166	71	13	1474	
2500	2.8	904	10	28	26	66	123	31	80	11	119	64	6	1468	
2500	2.6	944	14	26	17	55	169	33	93	12	135	42	13	1553	
914	1.3	868	12	25	32	52	238	5	255	13	85	0	8	1595	
1250	0.9	814	13	23	33	57	281	44	203	21	99	36	9	1634	
2200	1.9	936	13	29	29	71	251	51	104	17	163	1	9	1674	
2500	2.2	906	12	29	20	55	136	67	140	13	175	##	10	1687	
1219	1.2	946	11	27	90	68	294	8	222	15	89	0	9	1779	
900	1	939	13	26	75	77	321	6	209	13	129	0	6	1814	
800	1	994	12	26	49	64	316	6	279	13	87	0	8	1854	
711	0.8	933	11	25	98	80	376	12	323	14	87	0	4	1962	
2500	2.2	957	14	27	42	37	161	286	153	12	52	##	3	2007	
792	0.9	1013	14	31	52	70	402	7	342	12	91	28	6	2070	
982	0.8	995	19	31	88	85	416	9	291	13	126	0	8	2080	
800	0.8	974	14	28	85	75	431	4	465	13	124	0	5	2217	
965	0.7	1130	11	23	71	66	434	11	349	15	103	0	6	2220	
1800	0.7	1007	10	21	79	86	463	38	425	16	159	11	10	2324	
1016	0.7	1053	13	27	59	76	447	12	386	18	181	0	7	2278	
1016	0.6	1137	15	23	93	77	470	4	378	15	128	0	5	2345	
1016	0.5	1018	12	26	110	138	566	3	416	25	173	0	8	2495	
800	0.4	948	10	25	100	113	613	5	836	26	136	0	15	2825	
1250	0.3	1013	13	27	113	143	743	30	841	47	214	0	6	3190	
1100	0.5	1340	20	28	152	148	702	19	655	30	162	0	9	3265	
1524	0.4	1245	78	30	173	120	1048	20	796	35	328	0	17	3888	
1000	0.2	1425	30	25	335	195	1225	41	1473	49	225	0	13	5035	
		972	16	27	64	75	349	29	288	17	130	21	8	1995	

Average Realisation Value of Sugar Sales was Rs. 1210 per bag in 1997-98

Exhibit 19
Cost Per Bag (Rs.) for UPSC Mills (1998-99)

Installed Capacity	Sugar	Cane	Mfg.	Packg.	Power/	Maint./	Salary/	Depre	Interest	AdmExp	Wkg.	Int. on	Selling	Total	Recovery
--------------------	-------	------	------	--------	--------	---------	---------	-------	----------	--------	------	---------	---------	-------	----------

Capacity	Prod.	Cost	Expenses	Exp.	Fuel	Repairs	Wages		on govt.		Capital	loan form	Exp	Cost/	per bag
C.D.	LacQntls								loan		Interest	FIs		bag	*
1000	0.00													0	
1016	0.00													0	
1524	0.00													0	
1250	0.00													0	
1100	0.00													0	
4000	5.27	946	12	29	11	38	119	17	0	11	69	0	6	1257	104
2500	3.07	942	11	25	15	68	134	20	0	12	52	0	8	1287	87
2500	3.64	917	9	29	12	49	120	12	161	11	90	1	12	1424	93
1500	2.38	897	8	29	22	61	157	29	158	10	92	6	7	1478	73
2500	2.93	954	12	28	33	54	113	21	163	10	89	53	9	1539	87
1600	1.11	961	11	28	41	60	336	27	0	18	89	0	9	1580	100
1600	2.14	995	12	27	20	56	190	19	157	12	96	0	9	1594	77
2500	2.93	1013	12	29	16	40	134	24	184	19	114	68	14	1670	134
1300	2.19	910	50	29	40	42	251	3	170	9	123	0	9	1635	46
2500	2.38	966	12	28	18	65	139	69	174	14	112	42	11	1649	56
3000	2.27	972	12	29	56	76	190	22	221	15	102	0	11	1705	93
2500	3.14	963	9	29	12	40	150	67	190	12	127	111	9	1719	104
2500	1.67	1101	15	29	25	112	215	55	0	25	125	51	11	1764	125
2500	2.18	1022	15	29	15	71	190	41	231	12	123	46	15	1811	122
1250	0.72	1008	10	29	44	104	380	50	0	22	99	47	10	1803	97
914	0.86	1028	14	28	50	67	381	4	298	15	99	0	10	1993	88
1219	0.73	1047	12	27	125	81	453	3	261	25	153	0	10	2197	141
800	0.69	1090	15	30	87	86	459	7	217	21	126	0	11	2148	90
982	0.57	1052	23	31	105	114	593	14	243	21	118	0	7	2320	97
900	0.57	1075	15	30	127	96	530	13	321	22	144	0	9	2382	126
1016	0.54	1176	12	29	81	95	572	14	284	24	160	0	9	2456	93
965	0.50	1185	12	28	98	99	603	8	270	27	145	0	8	2482	111
800	0.49	1117	13	28	128	117	674	7	255	23	130	0	10	2502	113
792	0.57	1215	17	27	80	84	698	4	259	14	120	0	7	2524	119
1800	0.52	1120	12	27	96	79	611	18	442	15	162	14	11	2609	120
800	0.36	1112	11	31	138	120	677	3	302	30	153	0	7	2585	95
711	0.40	1111	15	24	133	129	738	15	261	27	165	0	10	2629	138
2500	1.33	1081	12	27	93	77	252	184	193	21	114	655	8	2719	93
1016	0.32	1115	11	30	137	117	874	10	298	27	157	0	10	2788	90
2200	0.32	1214	13	25	158	221	###	31	###	54	453	0	34	4497	404
		1044	14	28	67	84	400	27	231	19	130	36	10	2092	1

Average Realisation Value of Sugar Sales was Rs. 1244 per bag in 1998-99

Exhibit 20

UPSC Mills: Elements of Cost as a Percentage of Average Realisation** (1997-98)

Capacity	Sugar	Cane	Mfg.	Packg.	Power/	Maint./	Salary/	Depre	Interest	AdmExp	W/kg.	Int.	Selling	Total	Recover
C.D.	Prod.	Cost	Expenses	Exp.	Fuel	Repairs	Wages		on govt.		Capital	loan form	Exp	Cost/	per bag
	LacQntls								loan		Interest	FIs		bag	
500	3.4	71	0.9	2.1	1.2	3.9	10.0	2.3	0.0	0.8	4.2	0.0	0.5	96.5	6

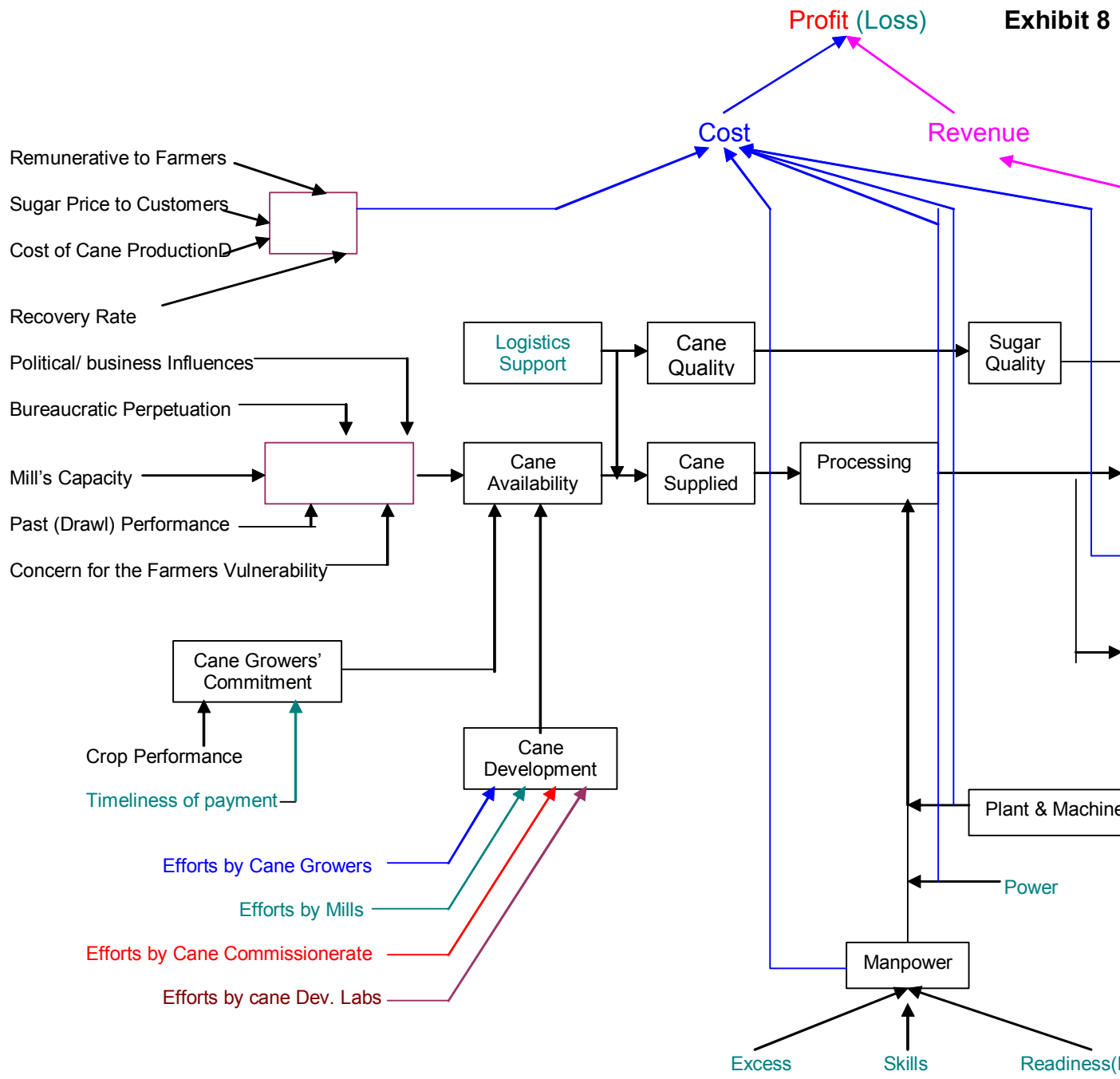
500	4	68	0.7	2.1	1.3	4.3	8.3	1.1	2.0	0.6	7.7	0.1	0.5	97.1	6
000	4.8	71	0.9	2.2	1.2	3.6	10.2	2.0	0.0	0.8	8.9	0.0	0.6	101.1	3
000	3.3	70	1.0	2.2	2.1	5.5	10.5	1.5	2.3	0.9	8.4	0.0	0.6	104.7	7
500	2.4	74	1.0	2.2	1.7	4.4	12.6	0.9	2.2	1.0	7.5	0.0	0.7	108.7	4
500	2.1	70	0.7	2.2	1.9	5.6	14.3	1.8	2.9	1.3	9.5	0.6	0.7	112.0	4
500	3.2	77	1.0	2.2	1.1	3.7	9.1	2.8	5.8	1.1	8.5	2.4	0.6	115.2	5
300	2.5	69	3.8	2.2	2.9	3.8	17.3	0.4	2.9	0.7	10.4	0.0	0.7	114.2	4
500	3.7	72	0.8	2.4	1.0	2.8	10.2	4.7	3.7	0.9	10.9	6.4	0.7	116.7	5
600	1.6	72	0.9	2.2	3.0	3.7	18.8	0.8	6.2	1.1	7.6	0.0	0.7	116.7	4
500	2.8	77	0.8	2.2	1.7	3.0	10.4	2.5	1.6	1.7	13.7	5.9	1.1	121.8	7
500	2.8	75	0.8	2.3	2.2	5.5	10.2	2.6	6.6	0.9	9.8	5.3	0.5	121.3	5
500	2.6	78	1.2	2.1	1.4	4.5	14.0	2.7	7.7	1.0	11.2	3.5	1.1	128.3	6
914	1.3	72	1.0	2.1	2.7	4.3	19.7	0.4	21.0	1.1	7.1	0.0	0.6	131.8	5
250	0.9	67	1.1	1.9	2.8	4.7	23.2	3.7	16.7	1.8	8.1	2.9	0.7	135.0	6
200	1.9	77	1.1	2.4	2.4	5.9	20.7	4.2	8.6	1.4	13.4	0.1	0.7	138.4	4
500	2.2	75	1.0	2.4	1.7	4.5	11.2	5.6	11.6	1.1	14.5	##	0.8	139.4	4
219	1.2	78	0.9	2.2	7.4	5.6	24.3	0.6	18.4	1.2	7.3	0.0	0.7	147.0	5
900	1	78	1.1	2.1	6.2	6.4	26.5	0.5	17.3	1.0	10.7	0.0	0.5	150.0	5
300	1	82	1.0	2.1	4.0	5.3	26.1	0.5	23.1	1.1	7.2	0.0	0.7	153.2	6
711	0.8	77	0.9	2.1	8.1	6.6	31.1	1.0	26.7	1.1	7.2	0.0	0.3	162.1	4
500	2.2	79	1.1	2.3	3.5	3.0	13.3	###	12.6	1.0	4.3	##	0.3	165.9	7
792	0.9	84	1.2	2.6	4.3	5.8	33.2	0.6	28.3	1.0	7.5	2.3	0.5	171.0	6
982	0.8	82	1.5	2.6	7.2	7.0	34.4	0.7	24.1	1.1	10.4	0.0	0.6	171.9	4
300	0.8	80	1.1	2.3	7.0	6.2	35.6	0.3	38.4	1.1	10.2	0.0	0.4	183.3	6
965	0.7	93	0.9	1.9	5.9	5.4	35.9	0.9	28.9	1.2	8.5	0.0	0.5	183.5	4
300	0.7	83	0.8	1.8	6.5	7.1	38.3	3.1	35.1	1.4	13.1	0.9	0.9	192.1	10
016	0.7	87	1.1	2.2	4.8	6.3	37.0	1.0	31.9	1.5	14.9	0.0	0.6	188.3	4
016	0.6	94	1.2	1.9	7.7	6.3	38.8	0.3	31.2	1.2	10.6	0.0	0.4	193.8	7
016	0.5	84	1.0	2.1	9.1	11.4	46.8	0.2	34.3	2.1	14.3	0.0	0.6	206.2	5
300	0.4	78	0.8	2.1	8.3	9.3	50.6	0.4	69.1	2.1	11.2	0.0	1.2	233.4	5
250	0.3	84	1.1	2.2	9.4	11.8	61.4	2.5	69.5	3.9	17.7	0.0	0.5	263.6	10
100	0.5	111	1.7	2.3	12.6	12.2	58.0	1.6	54.1	2.5	13.4	0.0	0.7	269.8	8
524	0.4	103	6.4	2.5	14.3	9.9	86.6	1.7	65.8	2.9	27.1	0.0	1.4	321.3	8
000	0.2	118	2.5	2.1	27.7	16.1	101.2	3.4	121.7	4.0	18.6	0.0	1.1	416.1	14
		80	1.3	2.2	5.3	6.2	28.9	2.4	23.8	1.4	10.7	1.8	0.7	164.9	6

Exhibit 21

UPSC Mills: Elements of Cost as a Percentage of Average Realisation* (1998-99)

Milled Capacity D.	Sugar Prod. LacQntls	Cane Cost	Mfg. Expenses	Packg.	Power/	Maint./	Salary/	Depre	Interest on	AdmExp	Wkg.	Int. on	Selling	Total	Recover
				Exp.	Fuel	Repairs	Wages	loan	Capital Interest	loan form Fls	Exp	Cost/ bag	per bag		
1000	0.00													0	
1016	0.00													0	
1524	0.00													0	
1250	0.00													0	
1100	0.00													0	

4000	5.27	76	1.0	2.3	0.9	3.0	9.6	1.4	0.0	0.9	5.5	0.0	0.5	101.1
2500	3.07	76	0.9	2.0	1.2	5.5	10.8	1.6	0.0	0.9	4.2	0.0	0.7	103.5
2500	3.64	74	0.8	2.3	1.0	3.9	9.7	1.0	13.0	0.9	7.3	0.1	1.0	114.5
1500	2.38	72	0.7	2.3	1.8	4.9	12.6	2.4	12.7	0.8	7.4	0.5	0.6	118.8
2500	2.93	77	0.9	2.3	2.6	4.3	9.1	1.7	13.1	0.8	7.2	4.3	0.7	123.7
1600	1.11	77	0.9	2.3	3.3	4.8	27.0	2.2	0.0	1.4	7.2	0.0	0.7	127.0
1600	2.14	80	1.0	2.2	1.6	4.5	15.3	1.5	12.6	1.0	7.7	0.0	0.7	128.1
2500	2.93	81	1.0	2.4	1.3	3.3	10.8	2.0	14.8	1.5	9.2	5.5	1.2	134.2
1300	2.19	73	4.1	2.3	3.2	3.4	20.2	0.2	13.6	0.7	9.9	0.0	0.7	131.4
2500	2.38	78	1.0	2.3	1.4	5.2	11.2	5.5	14.0	1.1	9.0	3.4	0.9	132.6
3000	2.27	78	0.9	2.3	4.5	6.1	15.3	1.8	17.8	1.2	8.2	0.0	0.8	137.0
2500	3.14	77	0.7	2.3	1.0	3.3	12.0	5.4	15.3	1.0	10.2	8.9	0.7	138.2
2500	1.67	89	1.2	2.3	2.0	9.0	17.3	4.4	0.0	2.0	10.0	4.1	0.9	141.8
2500	2.18	82	1.2	2.3	1.2	5.7	15.3	3.3	18.6	1.0	9.9	3.7	1.2	145.6
1250	0.72	81	0.8	2.3	3.5	8.4	30.6	4.0	0.0	1.8	8.0	3.8	0.8	145.0
914	0.86	83	1.2	2.3	4.0	5.4	30.6	0.3	24.0	1.2	8.0	0.0	0.8	160.2
1219	0.73	84	1.0	2.2	10.0	6.5	36.4	0.3	20.9	2.0	12.3	0.0	0.8	176.6
800	0.69	88	1.2	2.4	7.0	6.9	36.9	0.6	17.5	1.7	10.2	0.0	0.9	172.7
982	0.57	85	1.9	2.5	8.4	9.2	47.6	1.1	19.6	1.7	9.5	0.0	0.6	186.5
900	0.57	86	1.2	2.4	10.2	7.7	42.6	1.1	25.8	1.8	11.6	0.0	0.7	191.5
1016	0.54	95	1.0	2.3	6.5	7.6	46.0	1.1	22.8	1.9	12.9	0.0	0.7	197.5
965	0.50	95	0.9	2.3	7.9	7.9	48.4	0.7	21.7	2.2	11.6	0.0	0.6	199.5
800	0.49	90	1.0	2.3	10.3	9.4	54.2	0.6	20.5	1.9	10.5	0.0	0.8	201.2
792	0.57	98	1.4	2.2	6.4	6.7	56.1	0.3	20.8	1.1	9.6	0.0	0.6	202.9
1800	0.52	90	0.9	2.2	7.7	6.4	49.1	1.4	35.6	1.2	13.0	1.1	0.9	209.7
800	0.36	89	0.9	2.5	11.1	9.6	54.4	0.3	24.3	2.4	12.3	0.0	0.6	207.8
711	0.40	89	1.2	2.0	10.7	10.4	59.4	1.2	21.0	2.2	13.3	0.0	0.8	211.3
2500	1.33	87	1.0	2.2	7.5	6.2	20.3	14.8	15.5	1.7	9.2	52.7	0.6	218.6
1016	0.32	90	0.9	2.4	11.0	9.4	70.3	0.8	24.0	2.2	12.6	0.0	0.8	224.1
2200	0.32	98	1.1	2.0	12.7	17.8	86.6	2.5	97.8	4.3	36.4	0.0	2.7	361.5
		84	1.1	2.3	5.4	6.7	32.2	2.2	18.6	1.6	10.5	2.9	0.8	168.1



Sugar Group of Mills

Exhibit 23

Interest Burden (per bag) on the Mills 1998-99

(Rs. in Lakhs)

SL. NO.	Corporation Mills							Sl. No.	Federation Mills					
	UNITS	Installed	Sugar	Interest	Int. on	Int. on	Total		UNIT	Installed	Sugar	Interest on Wkg. Cap.	Other Interest	Total
		Capacity	Prodn	on Govt.	Wkg.	loan from				Capacity	Prodn			
	T.C.D.	LacQntls	Loan	Cap	Fis		(T.P.D.)	Lac Qntl						
1	AMROHA	3000.0	3.3	221.0	102.0	0.0	323.0	1	BAGHPAT	2500	3.2	102	125	194
2	BAITALPUR	914.0	1.3	298.0	99.0	0.0	397.0	2	SARSAWA	2500	4.1	92	1	225
3	BARABANKI	1000.0	0.2			0.0	0.0	3	ANUPSHAHR	2500	3.5	133	22	222
4	BAREILLY	1016.0	0.5			0.0	0.0	4	RAMALA	2500	4.2	89	6	137
5	BHATNI	1016.0	0.7	284.0	160.0	0.0	444.0	5	NANAUTA	2500	3.4	48	3	107
6	BIJNOR	2500.0	4.0	161.0	90.0	1.0	252.0	6	MORNA	2500	3.5	58	35	189
7	BULANDSAHER	2500.0	2.2	193.0	114.0	655.0	962.0	7	BAZPUR	1250	5.4	131	8	239
8	BURHWAL	800.0	0.4	302.0	153.0	0.0	455.0	8	MAJHOLA	3000	2.0	109	120	201
9	CHANDPUR	2500.0	3.4	0.0	52.0	0.0	52.0	9	KAIMGANJ	2500	0.8	92	215	200
10	CHATTA	2500.0	3.2	0.0	125.0	51.0	176.0	10	SATHA	2000	1.3	109	205	199
11	CHITTAUNI	800.0	1.0	217.0	126.0	0.0	343.0	11	NADEHI	4000	3.6	91	3	203
12	DEORIA	965.0	0.7	270.0	145.0	0.0	415.0	12	BUDAUN	2000	1.3	112	96	239
13	DOIWALA	2500.0	2.8	184.0	114.0	68.0	366.0	13	BISALPUR	2500	2.5	127	61	261
14	GHATAMPUR	1250.0	0.9	0.0	99.0	47.0	146.0	14	BILASPUR	2500	2.0	133	4	255
15	GHUGLI	982.0	0.8	243.0	118.0	0.0	361.0	15	BELRAYAN	2000	3.2	122	0	233
16	HARDOI	1800.0	0.7	442.0	162.0	14.0	618.0	16	TILHAR	2500	1.9	111	169	198
17	JARWAL ROAD	2500.0	2.2	174.0	112.0	42.0	328.0	17	GAJRAULA	2500	2.3	87	80	218
18	KHADDA	1600.0	2.4	157.0	96.0	0.0	253.0	18	SIARGANJ	2500	2.6	131	25	205
19	KICHHA	4000.0	4.8	0.0	69.0	0.0	69.0	19	SEMIKHERA	1250	2.8	74	8	214
20	LAKSHMIGANJ	900.0	1.0	321.0	144.0	0.0	465.0	20	SAMPURNANAGAR	1250	3.0	140	7	270
21	MAHOLI	1524.0	0.4			0.0	0.0	21	PURANPUR	2500	1.7	130	171	226
22	MEERUT	1219.0	1.2	261.0	153.0	0.0	414.0	22	GADARPUR	2125	2.9	96	7	262
23	MOHIUDDINPUR	2500.0	2.8	163.0	89.0	53.0	305.0	23	POWAYAN	2500	0.6	166	207	242
24	MUNDERWA	711.0	0.8	261.0	165.0	0.0	426.0	24	NAJIBABAD	2500	4.5	75	0	218
25	NANDGANJ	1250.0	0.3			0.0	0.0	25	AURAI	2500	0.5	143	555	258
26	NAWABGANJ	1100.0	0.5		130.0	0.0	130.0	26	RASRA	2500	0.7	115	263	351
27	PIPRAICH	800.0	0.8	255.0	89.0	0.0	344.0	27	SATHIAON	1250	0.5	236	476	333
28	RAEBARELI	1600.0	1.6	0.0	120.0	0.0	120.0	28	MEHMOODABAD	2500	2.5	97	71	264
29	RAMKOLA	791.5	0.9	259.0	453.0	0.0	712.0	29	SULTANPUR	1250	0.7	167	274	458
30	RAMPUR	2200.0	1.9	1217.0	123.0	0.0	1340.0	30	GHOSI	1250	0.6	291	828	412
31	ROHANAKALAN	1300.0	2.5	170.0	127.0	0.0	297.0	31	NANPARA	2500	1.4	121	222	534
32	SAHARANPUR	2500.0	3.7	190.0	92.0	111.0	393.0	32	DHURIAPAR	1250	0.1	413	128	413
33	SAKHOTITANDA	1500.0	2.1	158.0	157.0	6.0	321.0							
34	SHAHGANJ	1016.0	0.6	298.0	123.0	0.0	421.0							
35	SISWABAZAR	2500.0	2.6	231.0	351.8	46.0	628.8							
	Total		59.3	231.2	129.3	32.6	393.1		Total	71375	73	129	137	256