SUGAR INDUSTRY IN PAKISTAN – Problems, Potentials

By Syed Jamil Ahmed Rizvi, FCMA

SYNOPSIS

The industry employs more than 100,000 labour force while more than 9 million people of rural population are involved in the production of sugarcane. The existing mills are sufficient enough to produce the country's requirement of sugar until the next three years. DFIs should not entertain any application from whosoever politician or otherwise for setting up a new sugar mill in the country. Rather they should concentrate for financing of minimum working capital requirement of 67 operating mills, who are in dire need of such finance. An approximate amount of Rs. 2.7 billion will have to be earmarked by the commercial banks to finance for working capital requirement of these alive units.

Unfortunately, Pakistan's sugar industry is mostly owned by political personalities and majority of the sugar mills were setup with the help of DFIs normally trapped with the working capital crisis. Consequently, some of the mills have already been closed and it is feared that some more sick units will also close down. A collapse of sugar mill is a loss of national assets, reduction in the sales tax revenue and an increase in unemployment.

Loss of production of refined sugar due to excess quantity of raw cane diverted for seed and Gur manufacturing (37% instead of 25%) works out to 482,269 tons that could have made available possible a total sugar production of 2,911,633 tons both from cane and beet. Under such avoidable circumstances, the country could have needed to import only about 113,587 tons, which might result to save precious foreign exchange of approximately $ 208.830 million. Advance planning to foresee the situation for the previous year and control of proper utilization of cultivated sugarcane could have easily avoided the current sugar bonanza.

The Government should take up cost studies at the growing sugarcane stage for the purpose of fixing the support price for the growers. Cost studies for production of refined sugar both in terms of variable cost and fixed cost of production in each sugar mill, should also be undertaken to control the retail prices. Cost audit rules and compulsory maintenance of cost accounting records for sugar industry, in line with the international cost accounting models in other countries of the world, will prove to be a great help in this direction.

The net amount of foreign exchange amounting to Rs. 7.509 billion saved as a result of total exports of Rs. 19.772 billion during the last six years from 1994 to 1999 has been eaten away by the import of 900,000 tons during the current year 1999-2000 estimated to cost Rs.13.509 billion to the government exchequer.

With the proper utilization of poor cane crop for the season 2000 – 01, the situation for shortage of sugar may be reduced to 461,610 tons, which needs a foreign exchange of US $ 114 million.

The situation would be worse and get out of control if 37.5% of cane production for the on-going season is diverted for seed and Gur manufacturing instead of 25% estimate for which a hefty foreign exchange of US $ 241 million will be needed to import 972,843 tons. The Government should impose restrictions on excess production of Gur equivalent to 12.5% of sugarcane production.

Since de-zoning, the incentive of sugar mills to direct resources for development of good variety cane in its area has almost diminished because the grower who have borrowed money from a sugar mill for development is free to take his sugarcane to any mill irrespective of which mill advanced the loan for development. It is also one of the causes of sickness of sugar industry. Large interest of the growers of the area and those associated with such project, which collapses due to non-availability of cane is badly affected. Closure of a sugar mill reduces GDP and increase poverty of masses.

Balanced policy for cultivation of four major cash crop – wheat, cotton, rice and sugarcane. An incentive should be provided to the growers for cultivation of sugarcane on 1.150 million hectares. Indian variety of seed which has totally degenerated and diseased affect the production yield should be avoided.

Two economic theories (1) principle of supply and demand governed by market forces and (2) Government control of retail price can not work together and will further widen the sugar crisis in the country.

HEADLINES

Sugarcane is the fourth largest cash crop grown in Pakistan which contributes to the agriculture economy the crop value of Rs. 48,292 million. Its share in the large-scale industry is 18% and 1.9% in GDP. Sugar industry's contribution to the Government exchequer in Federal excise duty is 11.2%. Average yield of sugarcane is 44 tons against the world average of 60 tons per hectare. Pakistan's sugar mills crushing capacity is 58 million tons of sugarcane capable to produce 5 million tons of refined sugar and 3 mill tons of molasses. The mills still have utilized capacity of 34%.

Pakistan witnessed shrinkage of cane planted area by 12.5% which resulted a shortfall in sugarcane production during 1999-2000 as compared to the bumper crop of 55.191 million tons of last season 1998-99. Present sugarcane varieties are not yielding reasonable production and is also one of the prevailing sugar crisis.

Average selling price of white crystal sugar remained Rs.14,920 against the average cost of Rs.14,850 during the last 5-years from 1995 to 1999. In India sugarcane price at the mill gate is Rs. 19 per 40 Kg while retail price of sugar in that country is Rs. 18 per kilo.

Pakistan imported 900,000 tons during the previous year 1999-200 estimated to cost Rs. 15.509 billion to the Government exchequer. The on-going season will face a shortfall of 972,843 tons for which a hefty foreign exchange of US $ 241 million is required to import the low quality sugar mainly from India as compared to international quality certification for white crystalline sugar of Pakistan.

Pakistan has potential to further develop an area of 13,224 hectares along the main feeder canal from Indus river in Sindh with the help of utilization of 34% idle capacity of Pakistani mills who can export 50,000 tons of sugar to Arab World for exchange of half a million barrels of crude oil for Pakistan.

Sales Tax on market prices is causing hardship for poor people of Pakistan. Two economic theories (1) principle of supply and demand due to abolition of de-zoning in free market forces and (2) Government control of retail price can not work together and further widen the sugar crisis in the country.

INTRODUCTION:

Sugar Industry is an agro-based industry, which provides employment to the landless rural population and has a great impact on the economy of the country.

The three principal bye-products of a sugar industry are bagasses, molasses and press cake which along constitute about 40 per cent of the weight of the total cane crushed. Proper and economic utilization of these bye-products can reduce the cost of production of sugar to some extent. Bagasse is a source of energy fuel for sugar industry which is used to fire boilers for juice heating. Bagasse is also being used for making Medium Density Fibre Board (MDFB) at some industries which is a substitute for natural wood. In Pakistan, utilization of sugar bye-products has not received much attention as compared to other countries of the world.

Average yield of sugarcane in the world is around 60 tons per hectare while in Pakistan, it has been worked out to 43.86 tons per hectare. India with almost similar soil and climatic conditions had achieved about 61% higher yield for the year 1996-97. Within Pakistan even, there exists a large gap between yield obtained at the farmers' fields and those obtained on experimental stations. There is, therefore, still a great scope to achieve much higher yield at the common farm level in Pakistan. In Sudan a north African country yield per hectare is 78 tons while it is 115 tons per hectare in South African country - Zambia.

Two types of process are generally used in sugar factories. (1) Defecation remelt carbonation (DRC); (2) Defecation remelt carbonation and sulphitation (DRCs). These two are clarification process.

Pakistan is producing high quality sugar of international standards but it is costlier due to various factors. International prices of sugar had declined due to higher output over the demand. It was $225 per ton at the start of 1998 while it had come down to $ 188 per ton on 12.9.1999. World output of 136 million tons of sugar had been forecasted for the season 1999-2000.

Molasses may be utilized for production of power alcohol, industrial alcohol and portable spirits. Press cake of sulphitation factories are used as manure and that of carbonation factories are usually burnt. Sugar is commonly used as a sweetener. It is one of the worlds valuable nutritious foods and is the main source of carbohydrates and provides inexpensive calories for human body.

Sugarcane is the fourth largest cash crop grown in Pakistan which contributes to the agriculture economy the crop value of Rs. 48,292 million. A 78 per cent of this sugarcane was utilized and crushed by 73 sugar mills for the season 1998-99, producing 3.531 million tons of refined sugar which was capable to contribute substantial amount to the federal government revenue towards sales tax and road cess for Provincial government revenue. The industry employs more than 100,000 labour force while more than 9 million people of rural population are involved in the production of sugarcane.

The sugar industry, which is the second largest in the country after textiles, has a potential of great economic significance for the country.

In Pakistan normally season starts in November and ends in April while in Zambia it starts in April and finishes in December.

TABLE I: Projections of Demand & Sugar Production Capacity

Year	Population in Million	Domestic Consumption in tons	Projected Sugar Prod. Capacity In tons	Sugar surplus (shortage) Tons
1998-99	134.51	2959000	3530850*	571850
1999-00	137.51	3025220	2414746*	(610474)
2000-01	140.94	3100680	3304360	203680
2000-02	144.47	3178340	3304360	126020
2002-03	148.08	3257760	3304360	46600
2003-04	151.78	3339160	3304360	(34800)
2004-05	155.58	3422760	3304360	(118400)

Per capita consumption 22 kg [Excluding Beet Production] * Actual Economic Survey 1999-2000

Sugar Mills' Capacity

In Pakistan 76 Sugar Mills are operating having crushing capacity of 361,300 tons of cane per day (TCD). Seven Sugar mills extended capacity but they are unable to utilize. Based on 160 days season these sugar mills have a total crushing capacity of 58 million tons of sugarcane capable to produce 5 million tons of refined sugar and 3 million tons of molasses.

In order to enable the country to be self-sufficient in sugar, a minimum area of 1.150 million hectares should remain under sugarcane cultivation, which can produce 50 million tons at an average yield of 43.86 tons per hectare. The Government should insure that at least 76% of the sugarcane grown in the country is utilized by all sugar mills. It means that a total of 38.3 million tons if compulsorily utilized by the mills can easily produce white refined sugar of 3.3 million tons per season at an average sucrose recovery of 8.62%. Pakistan present population is 13.5 million head count. With an average growth rate of 2.5% per annum, the population of the country will grow year to year as shown in graph and table I. The per capita consumption of sugar in Pakistan is about 22 kg. The estimated domestic consumption is provided in table I and graph IA. Keeping in mind the balance production of agricultural sector and peculiar problems the sugar industry face due to being its status of political industry, and its seasonal nature the minimum production of 3.3 million tons per season will be sufficient enough to meet not only the domestic demand but also make surplus sugar available during the next three years as shown in the table.

It is very important point that by utilizing 38.3 million tons of cane against their normal plant capacity of 58 million tons of sugarcane, the mills would still have unutilized capacity of 34%. This clearly signals that the existing mills are sufficient enough to produce the country's requirement of sugar until the next three years. The Government should focus its policy for increasing the production of sugarcane on the existing area under cultivation and sugar output by the available mills. It should not encourage further increase in the number of sugar mills. All development Financial Institutions (DFIs), banks, and other financial institutions should make a firm policy that Pakistan has surplus sugar capacity and limited crop on the maximum area of 1.150 million hectares due to balancing of other cash crops such as wheat, cotton and rice. They should not entertain any application from whosoever whether politician or otherwise for setting up a new sugar mill in the country. Rather they should concentrate for financing of minimum working capital requirement of 67 operating mills, who are in dire need of such finance. An approximate amount of Rs. 2.680 billion will have to be earmarked by the commercial banks to finance these alive units. As for as nine closed or dying units such as Bachani, Thatta, Dadu, Kiran, Larkana, Tharparkar, Thar, Pasrur and Qand Ghar are concerned, respective DFIs should seriously look into the causes of their closure. Causes of closure of these mills may predominantly be that of non-availability of cane, lack of BMR, loan default, compounded by mismanagement or otherwise. The purpose of accountability and macro economic development are two separate things and have multi-dimensional effects on the health of financial sector and welfare of the population. The cases of accidental defaulters who are unable to pay their loans due to cost over-runs because of delay in project implementation, lack of BMR, financial mismanagement, diverting of working capital towards subsidiary company should be handled in such a way so as to serve the national interest. Those sugar mills trapped in the accidental defaulters, who employ a good number of people and contribute substantial amount to the exchequer should be given a chance for restructuring their loan liabilities. The compounded mark-up should be waived and the principal amount of loan rescheduled, payable within three years time, so that the health of the banking sector could be restored and objective of revival of sugar industry is achieved.

Table II: Sugarcane cultivation, Crushing and Sugar production

Year	Area Planted Hectares	Sugarcane Production tons	Yield Per hectare tons	Cane crushing Tons	No. of Mills	Utilisation % by Sugar Mills	Sugar Produced Tons	Recovery %
1985-86	779800	27856300	35.72	12063292	40	43.30	1102316	9.14
1986-87	762000	29925800	39.27	14485439	41	48.40	1255839	8.67
1987-88	841600	33028800	39.25	20304087	44	61.47	1743505	8.59
1988-89	876900	36975700	42.17	21707520	45	58.71	1817935	8.37
1989-90	854300	35493600	41.55	20501339	48	57.76	1828904	8.92
1990-91	883800	35988700	40.72	22603696	51	62.80	1908838	8.44
1991-92	896000	38865000	43.38	24795815	53	63.80	2296698	9.26
1992-93	884600	38058900	43.02	27274806	61	71.66	2375289	8.71
1993-94	962800	44427000	46.14	34181899	63	76.93	2900523	8.49
1994-95	1009000	47168447	46.75	34193290	66	72.49	2983101	8.72
1995-96	963100	45229700	47.00	28151434	66	62.24	2449598	8.70
1996-97	964511	41998409	43.54	27152918	68	64.65	2378751	8.76
1997-98	1056200	53104200	50.28	41062268	71	77.32	3548953	8.64
1998-99	1155100	55191100	47.78	42994911	71	77.90	3530931	8.21
1999-00	1010000	46363000*	45.90	28982711	67	62.51	2414746	8.33

*Economic Survey 1999-2000 Source: PSMA

Sugarcane Production Yield and Sucrose Recovery

From Table II, it is obvious that sucrose recovery plays a critical role in increasing sugar production. The Government may take necessary steps to insure that the cane growers use improved varieties of sugarcane possessing high sucrose contents and resistance to disease and pests and our research institutes evolve high sucrose content varieties of sugarcane. Each mill should have vigilant cane department, which should see that fresh cane supplies from the fields are brought to the mills on the very same day these are cut by the farmers. They should be advised to transport their cane to the mills as soon as possible to avoid losses of weight and of sucrose content.

Improved yield per hectare is a dominant factor augmenting the sugarcane production and increasing the income of growers. Area under cane cultivation, production and per hectare yield for the past fifteen years are shown in Table II.

From table II, it is observed that the area, production and yield per hectare of sugarcane have reasonably improved. Lower productivity in Pakistan is due to insufficient irrigation water, inadequate input of fertilizer, and also lack of proper spraying of insecticides and pesticides.

The Government had raised the minimum support prices of sugarcane per 40 kg from Rs. 24 to Rs. 35 for Punjab and Rs. 36 for Sindh on March 3, 1997. As a result there was a bumper sugarcane crop of 55.191 million tons in the year 1998-99. Due to the price increase and the burden of interest on long term and short term loans and refusal of commercial banks to provide working capital finance to some of the sugar mills because of their loans default position attributable to financial mismanagement or otherwise, the high level of cane growers arrears payment for the bumper season 1998-99

were delayed extraordinarily. This had resulted in the shrinkage of cane-planted area by about 12.5% in 1999-2000 season.

Sugarcane planted during the season 1999-2000 on an area of 1.010 million hectares against the area of 1.155 million hectare for the previous season 1998-99. Sugarcane production of the year 1999-2000 was 46.363 million tons as compared to 1998-99 bumper crop of 55.191 million tons resulting a short fall in sugarcane production by 16%. Out of the cane crop grown this year, sugar mills had utilized and crushed 28.983 million tons of cane and produced 2.415 million tons of refined sugar at an average recovery of 8.33 percent in the season 1999-200.

In Pakistan present sugarcane varieties are not yielding reasonable production and led to the prevailing sugar crisis. The Government may consider to import high yielding varieties of sugarcane for averting any sugar crisis in the country for the future.

Table III: Sugarcane Yield Per hectare per ton in various countries.

Countries	1989-90	1991-92	1996-97
USA	77.44	76.80	75.19
Mauritius	70.33	72.83	71.39
India	66.06	64.14	70.30
Brazil	62.02	61.74	67.42
Pakistan	41.55	43.38	43.54
Cuba	59.98	57.04	34.83

Source: DAWN EBR July 12-18, 1999

Initial Working Capital

Unfortunately, Pakistan's sugar industry is mostly owned by political personalities and majority of the sugar mills were setup with the help of DFIs normally trapped with the working capital crisis. Consequently, some of the mills have already been closed down and it is feared that some more sick units will also close down. A collapse of sugar mill is a loss of national assets, reduction in the sales tax revenue and an increase in unemployment. It is the prime responsibility of entrepreneurs to arrange for working capital required for smooth start and uninterrupted production during a season. A minimum cash of Rs. 40 million is required to rotate the crushing and production cycle in the first month of a season. Setting up a project is one thing, which in most cases, is financed by DFIs, but availability of working capital is the life blood for a project. Some companies prefer to use the option of borrowed funds both from commercial banks and by way of using suppliers' credit, which does not help the company in long-term survival of the project. Availability of the working capital plays a critical role.

Improvement in sugarcane yield per hectare, increase in sucrose content, maximum utilization of plant capacities and, above all, availability and efficient use of working

capital will help the country in the production of surplus sugar during the next three years as shown in table I.

Previous Crop Crisis 1999-2000

Sugarcane production - Total	46,363,000 tons	= 100%
Crushed by 67 Sugar Mills	28,982,711 tons	= 62.5%
Diverted for Seed and Gur making	17,380,289 tons	= 37.5%
Total Sugarcane	46,363,000 tons	= 100%
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Loss of production of refined Sugar due to excess quantity of raw cane diverted for seed and Gur manufacturing (37.5% instead of 25%) works out to 482,269 tons that could have made available possible a total sugar production of 2,911,633 tons both from cane and beet. Under such avoidable circumstances, the country could have needed to import only about 113,587 tons, which might result to save precious foreign exchange of approximately $ 208.830 million. Advance planning to foresee the situation for the previous year and control of proper utilization of cultivated sugarcane could have easily avoided the current sugar bonanza.

Prospects and failure for the on-going season 2000-2001 (Nov. 2000 to Mar 2001)

According to Agriculture Ministry sugarcane has been planted on 926,000 hectares. It means that there is reduction of 84,000 hectares in cane-cultivated area by 8.3%. The crop position for the on going season is estimated as follows:

Sugarcane production at avg. yield (926000 Ha @ 43.86 tons)	40,614,360 tons
Less diverted for seed and Gur making @ 25% standard	10,153,590 tons
Balance available for crushing = @ 75%	30,460,770 ton
White spoon sugar at avg. recovery of 8.62% (max)	2,625,718 tons
Avg.sugar production from Beet	13,352 tons
Total Minimum target	2,639,070 tons
Annual estimated Domestic demand	3,100,680 tons
Minimum short fall	(461,610 tons)
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Past Five Year Performance of Three Public Sector Companies

There are 38 public limited companies listed with Karachi Stock Exchange. Out of these, three companies viz-a-viz Dewan, Fecto and Crescent have been selected as sample companies whose average selling price of sugar and cost for the last five years

from 1995 to 1999 are provided in table IV.

Table IV: Average Sales and Cost Price (Ex-mill) Per Ton

Sample Companies	Selling Price(Rs)	Cost (Ex-mill) Rs.
Dewan	15,011	14,791
Fecto	14,589	14,785
Crescent	15,082	15,144

Year wise selling and cost price of these three combined companies are shown in table V which indicates that cost per ton of sugar had gone up to Rs. 17,775 in 1996-97 representing 67.3% increase from the base year. However, the average retail price of sugar in the open market during this year was Rs. 21.26 against of the price of Rs.16.76 for the previous year as shown in table VI.

Table V: Yearwise Sales and Cost Price Per Ton of Sample Companies and Yearly Increase from the Base Year

Year	Sales Price Per ton Rs	% Increase from Base Year 1994-95	Cost Price Per ton Rs	% Increase from Base year 1994-95
1994-95	11,670	-	10,624	-
1995-96	14,630	25.4	13,454	26.6
1996-97	14,099	20.8	17,775	67.3
1997-98	18,274	56.6	16,053	51.1
1998-99	15,585	33.5	16,234	52.8

Average selling price of white crystal sugar of three combined sample companies in public sector for the period of five years from 1995 to 1999 has been worked out to Rs. 14,920 per ton while their combined average cost arrived at Rs. 14,850 per ton. This shows that these producers of sweetner commodity for human body have not only survived in crisis of this political industry which had been emerged from year to year but also slightly crossed the break-even point as reported in the consolidated marginal Income Statement as well as graph showing break-even point of three companies for 5-years from 1995 to 1999. They appear to be good performance companies from the view point of cost control amidst peculiar crisis due to political

decisions predominantly taken due to its status of being political industry.

Consolidated Marginal Income Statement

	Rs. "000"	%
Sales Revenue	13035929	100
Less: Variable Costs	10380213	80
Marginal Income	2655716	20
Less: Fixed Costs	2595053	20
Operating Profit	60663	0
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Fixation of Sugarcane Support Price and System of Payment of Quality Premium

Sugarcane growers are negatively motivated for earning more money based on price structure ignoring the importance of adopting recent technologies for increasing yield of sugarcane per hectare thus hampering the national economy. Late maturing and better quality cane is being produced of unapproved variety. Sugarcane growers interested in growing good quality cane are being discouraged due to existing payment procedure of quality premium based on average recovery of bad and good cane both thus benefiting those who are growing bad quality cane of unapproved varieties at the cost of good grower planting good quality cane. As shown in table VI sugarcane support price for the season 1997-98 increased to Rs.36 per 40 kg as against the previous season price of Rs.24.50 per 40 kg thereby shooting by 46.94% in Sindh. However, sugar had been sold in the open market at retail price of Rs.19.54 per kg during 1997-98 as compared to Rs.21.26 per kg in the previous year. In India sugar cane price at the mill gate is Rs. 19 per 40 kg while retail price of sugar in that country is Rs. 18 per kilo.

The Government should take up cost studies at the growing sugarcane stage for the purpose of fixing the support price for the growers. Cost studies for production of refined sugar both in terms of variable cost and fixed cost of production in each sugar mill, should also be undertaken to control the retail prices. Cost audit rules and compulsory maintenance of cost accounting records for sugar industry, in line with the international cost accounting models in other countries of the world, will prove to be a great help in this direction.

Cost audit should be taken p both in letter and spirit. Cost audit is not punitive in nature. It is rather suggestive and derives its force from the maxim 'prevention is better than cure'. It identifies areas of weaknesses, invisible losses and unaccounted inefficiencies which ultimately result in adverse effects on the financial health of an organization. Cost audit helps in getting early warning signals for remedial action. We have experienced a horrible national indebtedness, massive default of bank loans and failure of corporate sector on account of mismanagement of national resources.

Comparison of Cane Support Prices with Sugar Price

Table VI: Yearwise Sugar and Sugarcane Prices 1989-90 to 1999-2000 compared with average price of sugar in open market.

Year	Sindh Rs/40kg	% change	Punjab & NWFP	% change	Quality premium	% change	Average Actual Price per kg (open market)	% change
1989-90	14.00	-	13.75	-	0.19	-	11.76	-
1990-91	15.75	12.50	15.25	10.90	0.19	-	11.26	(4.25)
1991-92	17.00	7.94	16.75	9.83	0.22	15.79	11.62	3.20
1992-93	17.75	4.41	17.50	4.48	0.22	0.00	12.29	5.76
1993-94	18.25	2.82	18.00	2.86	0.22	0.00	12.91	5.04
1994-95	20.75	13.70	20.50	13.89	0.27	22.73	13.74	6.43
1995-96	21.75	4.82	21.50	4.88	0.27	0.00	16.76	21.98
1996-97	24.50	12.64	24.25	12.79	0.27	0.00	21.26	26.85
1997-98	36.00	46.94	35.00	44.33	0.32	18.52	19.54	(8.09)
1998-99	36.00	0.00	35.00	0.00	0.50	56.25	19.09	(2.30)
1999-00	36.00	0.00	35.00	0.00	0.50	0.00	20.53	7.54

Source: PSMA Report 1999 Economic survey 99-00

Sugar Trade A Source of Forex Earnings

Table VII: Balance of Sugar Trade – Imports VS Exports

FISCAL YEAR	IMPORTS		EXPORTS		BALANCE OF TRADE		
	Tons	Value "000"Rs	Tons	Value "000"Rs	Tons	Value "000"Rs	
1993-94	47669	444105	121565	1204964	73896	760859	Favourable
1994-95	5188	68761	315886	3770558	310698	3701797	Favourable
1995-96	3214	50239	29134	350066	25920	299827	Favourable
1996-97	681083	9861825	-	-	(681083)	(9861825)	Adverse
1997-98	110990	1685859	210632	2897750	99642	1211891	Favourable
1998-99	10097	152591	906602	11549170	896505	11396579	Favourable
Sub-Total	858241	12263380	1583819	19772508	725578	7509128	Favourable
1999-00*							
Arrived by 15/11/2000	720000						
In transit	80000						
Brown Sugar	100000	13509000	Nil	Nil	(900000)	(13509000)	Adverse
Total L/Cs opened	900000						
Grand Total		25772380		19772508		(5999872)	Adverse

Table VII shows that net amount of foreign exchange amounting to Rs. 7.509 billion saved as a result of total exports of Rs.19.772 billion during the last six years from 1994 to 1999 has been eaten away by the import of 900,000 tons during the current year 1999-2000 estimated to cost Rs.13.509 billion to the government exchequer. In other words this huge amount of Rs. 13.509 billion nullified the foreign exchange savings as a result of surplus production of wheat for the import of sugar. Pakistan' agrarian economy thus faced negative compulsions.

Contribution in Government Revenue

Sugar industry's average annual contribution to the Government exchequer in respect of Federal Excise duty of Rs. 5,430 million represents 11.2% of the total average of Federal Excise duty collection for the last 9-years as reflected in table VIII.

The estimated sugar production for the current season facing the series of crisis is worked out to 2.128 million tons, which may contribute GST between Rs. 4.468 billion to Rs. 4.915 billion. Hence the government revenue from sugar industry will decline by 18% for the year 2000-2001.

Table VIII:

Fiscal Year July - June	Revenue from Sugar industry Rs. Million	Federal Excise Duty Collection Rs. Million	Sugar Industry Contribution %
1991-92	4,540	30,334	15.0
1992-93	5,100	35,169	14.5
1993-94	5,445	34,591	15.8
1994-95	5,552	43,691	12.7
1995-96	5,831	51,104	11.4
1996-97	5,000	55,297	9.0
1997-98 (Est)	4,920	62,011	7.9
1998-99 (Est)	7,415	60,904	12.2
1999-00 (Est)	5,071	63,000	8.0
Total	48,874	436,029	
	=====	======	
Average P.A.	5,430	48,448	11..2%

Source: Economic Survey 1999-2000

By-products of Sugar – Equally lucrative and a source of foreign exchange earnings

In Pakistan around 70% of the molasses produced is exported. During the last 12 years from 1988 to 1999 a quantity of 12 million tons of molasses exported valuing more than Rs. 16 billion. This shows that sugar industry exports about One million tons of molasses earning a foreign exchange of Rs. 1.3 billion per annum.

The remainder of molasses is used for industrial alcohol and poultry feeds. The bye-product of molasses, is exported in raw as well as processed form. The processed form of molasses is industrial alcohol. Pakistan had made export of fermentation ethyl alcohol (not denatured) of 71 million litres valuing Rs.718 million during the last 12-years

from1988 to1999. From these statistics we can say that sugar industry exports 6 million litres valuing average forex earnings of Rs.60 million per annum.

If all molasses is converted into alcohol, the country could earn more foreign exchange through its exports; or if blended with gasoline will provide gasolhol, which may reduce oil import bill to some extent.

Middlemen making Pakistani Sugar Costlier

Those sugar mills who were in operation in the previous season are also striving hard for working capital finance for purchase of cane and initial start up expenses for the cane crushing. Some of the sugar mills are forced to make agreements with the middlemen who would purchase sugarcane from the growers at the rate of Rs.36 per 40 kg on commission basis and sell it out at the rate of Rs.40 to Rs. 55 to sugar mills. Such middlemen also receive commission from cane growers and pay to poor growers lesser than the support price. This situation would definitely increase the ex-factory cost of sugar production, which may be avoided if sugar mills are provided initial working capital finance by the commercial banks.

It happened for the first time in the history of Pakistan that sugar an essential commodity for human consumption as well as pharmaceutical products and other commercial usages is sold at very exorbitant rates ranging from Rs. 27 to Rs. 40 per kilogram. As compared to this, the retail price of sugar in India is not more than Rs. 18 per kilogram.

Gur manufacturing a cause of tax revenue losses

One of the major reasons for the shortfall in sugar production is Gur manufacturing. The demand of Gur has increased for the last five years due to influx of Aghan refugees who use Gur for meeting their nutritious requirement. But it should be noted that whitened Gur is injurious to the health of human body due to use of unapproved chemicals to change the colour of Gur to whitening.

In the previous season 1999-2000, the Government of Pakistan had lost more than Rs. One billion towards sales tax revenue due to non-production of white spoon sugar of about 482,269 tons.

The situation for current season is very much alarming which is heading to create a big quantum of shortfall in sugar production. But here we restrict to the loss of white crystalline refined sugar due to excess diversion of sugarcane by 12.5% for Gur manufacturing. This will result a loss of white sugar production of 437,620 tons that will render a minimum loss on account of sales tax revenue to the Government for the sum of Rs.919 million to Rs.1011 million, which can be avoided easily by imposing restrictions on Gur manufacturing above the 25% allowed standard both for seed and Gur.

Sugar Integrated Projects

In various countries of the world, sugar is produced through big sugar integrated estates. In order to provide an interesting background for agro-industrial undertaking for one of the largest project in the world and another which is the second largest in Africa the profiles of these sugar giants are presented below:

The proposal for the development in the Sudan of one of the world's largest integrated sugar estates was formally accepted in June 1972. The underlying and at that time original concept was to harness in a multinational project the resources of Arab oil wealth, Western Technology and expertise and the fertile soils of Africa in order to create a major agro-industrial undertaking that might serve the forerunner of others to come and given the necessary infrastructure development, lead in the fullness of time to the Sudan realizing its full agricultural export potential as the "Bread basket of the Arab World."

Following the signing of agreement between the Government of Sudan and Lonrho Limited, a publicly quoted U K company, Kenana Sugar Company Limited was incorporated in 1975. The immediate objective was the creation, on what was previously scrubland of an irrigated sugarcane plantation with an area in excess of 35,300 hectares together with associated infrastructure and a factory capable of crushing 17,000 metric tons of cane per day to yield at full production upwards of 300,000 metric tons of sugar per annum. Import substitution and the resultant savings in scarce foreign exchange were primary considerations in the decision to proceed with the Project that was to become Kenana and a major milestone, the achievement by the Sudan of self-sufficiency in sugar production.

Kenana's impact on the social and economic development of Sudan has been significant in a number of areas:-

- Creation on a large scale of employment opportunities for Sudanese nationals.
- Reduction in the Sudan's deficit in its balance of trade and balance of payments on current account.
- Transfer of technology into the Sudan.
- Impetus to sugarcane research and development in the Sudan.

Some facts and figures about the Kenana Project will give a measure of the size of the scheme and the magnitude of achievement in this agro-based industry.

Location: Near Rabak on the east bank of the White Nile, some 250 km south of Khartoum and 1200 km from Port Sudan.

Irrigation Works: 4 Pump Stations, with a capacity of 44 cubic metres a second and a total lift of between 40 and 43 metres, carry the waters of the White Nile along 29 km of Main Canal to command the plantation area onto which they are

fed by gravity along some 300 km of secondary canals following the contours of the Estate.

Irrigation requirement: 800 million gallons per day.

Estate Roads: 250 km of major roads supplemented by a network of 1500 of infield roads. Maximum length of cane haul to factory: 35 km.

Electricity Generation: During crop: 40 megawatts. Off-crop: 20 megawatts.

Harvesting: Mechanical 50%. Hand cut 50%.

Workforce: 6,000 permanent employees, with an additional 9,000 seasonal workers engaged for the duration of the crop.

Crop Statistics per Season:

1.	Area harvested	33,600 hectares
2.	Yield per hectare	77.7 tons
3.	Cane harvested	2.6 million tons
4.	Sugar production	269000 tons
5.	Sugar recovery as a percentage of cane crushed.	10.35%
6.	Crushing season	154 days
7.	Average Cane crushed per day	16800 tons

Profile of Second largest Sugar estate cum factory/refinery complex: The project was commissioned by Tate Lyle PLC London which is number one sugar industry in the world. This is known as Nakambala Sugar estate located some 100 km from Lusaka, capital city of Zambia.

An integrated, irrigated cane sugar estate cum factory/refinery complex has the similar infrastructure equivalent to about one third of Kanana Sugar estate of Sudan. The Nakambala sugar estate plants cane on 10,000 hectares of land. Sugarcane of more than 1 million ton is harvested at average yield of 115 tons per hectare. The factory produces 132,000 tons of sugar at an average sucrose recovery of 12.15%. Every year increase in plantation area is made in view of corresponding increase in the country's population. Management of the Zambia Sugar Company shoulders the challenging responsibility to keep Zambia itself self-sufficient in sugar.

Exchange of Sugar Commodity with Crude Oil

The purpose for writing brief profile of large sugar estates operating in the world is despite the fact that Pakistan does not have adequate means to introduce large scale farming either at NGO level or Government level, or private sector, it may approach oil producing countries to finance large scale cultivation in addition to 1.150 million hectares owned by small growers. If Arab countries financiers such as Saudi Arabia,

Kuwait, Dubai, Abu Dhabi, Qatar, Bahrain, and Muscat develop an area of 13224 hectares, it will solve unemployment problem of rural population and reduce poverty. Reason being is that the writer has observed that whether in abroad or Pakistan, smooth production from sugar mills changes entirely the socio-economic development of the specific area where a sugar mill operates. It brings prosperity for the rural population at large as well as urban population at small.

Alternatively Islamic development Bank normally also finances such large-scale cultivation projects under the Islamic mode of financing.

The sugarcane so produced from this scheme may be utilized by the under-utilized and or closed sugar mills, which may give an additional output of refined sugar of 50,000 tons. The commodity valuing $ 15 million may be exported to Arabian countries in exchange of about half a million barrels of crude oil for Pakistan.

Sugar Industry Contribution in Large Scale Manufacturing and Gross Domestic Product.

Sugar industry's share during the last five years from 1996 to 2000 was Rs.249,629 million in large scale manufacturing of Rs. 1,394,461 million, which in term of average percentage is 18%. Pakistan's total GDP at market prices for these five years was Rs.13,364,078 million, out of which sugar industry's average contribution was 1.9%. These indicators clearly show the incredible performance of sugar industrial sector performance in national economy. Year wise indicators are provided in table IX.

Table IX:

Year	Sugar Production (excluding Beet) Tons	Avg. market price per ton Rs. Million	Cost of sugar at current market prices. Rs. Million	Value of large scale mfg at current Factor-cost Rs. Million	Sugar industry Contribu-tion in LSM %	Total Gross Domestic Prod at Market Price Rs. Million	Sugar industry Contribution In GDP at Market price %
1995-96	2,449,598	14,630	35838	226,482	15.8	2,141,842	1.7
1996-97	2,378,751	14,099	33538	255,798	13.1	2,457,381	1.4
1997-98	3,548,953	18,274	64854	284,725	22.8	2,677,656	2.4
1998-99	3,530,931	15,585	55030	308,110	17.9	2,913,514	1.9
1999-00	2,414,746	25,000	60369	319,346	18.9	3,173,685	1.9

Source: Pakistan Economic Survey 1999-2000

FC: Factor cost MP: Market price LSM: Large scale manufacturing

CONCLUSION

Hard ground reality is that under the limiting economic factors affecting the sugar industry such as area under cultivation, lower yield, low sucrose recovery compounded by the arrear of cane growers payments, increasing trend of closure of sugar mills owing to multiple causes, lack of working capital finance and above all diverting a big portion of cane production for Gur manufacturing, it appears very difficult to meet the domestic requirement. However with the proper utilization of poor cane crop for the season 2000-2001, the situation for shortage of sugar may be reduced to 461,610 tons as computed under prospects and failure and will definitely be met by importing this sweetener commodity at the high international price of $ 248 per ton which needs a foreign exchange of $ 114 million.

The situation would be worse and get out of control if 37.5% of cane production for the on-going season is diverted for seed and Gur manufacturing instead of 25% estimate and decline of sucrose content from average recovery of 8.62% to 8.33% as witnessed during the previous crisis season 1999-2000. In that case shortfall of white sugar has been worked out to 972,843 tons for which a hefty foreign exchange
of $ 241 million will be needed to import the sugar to feed a population of 140.94 million during the year 2000-01.

Since de-zoning, the incentive of sugar mills to direct resources for development of good variety cane in its area has almost diminished because the grower who have borrowed money from a sugar mill for development is free to take his sugarcane to any mill irrespective of which mill advanced the loan for development. It is also one of the causes of sickness of sugar industry. Large interest of the growers of the area and those

associated with such project, which collapses due to non-availability of cane is badly affected.

In this situation some mills who can not offer immediate hard cash payment to the growers of its zone normally start starving for the raw material and are ultimately closed which results collapse of an important national asset, loss of revenue to Government exchequer, unemployment of the rural population living nearby such mill. Thus closure of a sugar mill reduces GDP and increase poverty of masses.

The Government should seriously think about this critical problem and make remedial measures alongwith those suggested below to avert the crisis in future.

a) Balanced policy for cultivation of four major cash crop – wheat, cotton, rice and sugar. An incentive should be provided to the growers for cultivation of sugarcane on 1.150 million hectares.

b) Indian variety of seed which has totally degenerated and diseased affect the production yield should be avoided. Instead the government should import high-yielding varieties of sugarcane from other countries for averting any sugar crisis in the future.

c) The government should make a publicity campaign for minimizing use of Gur so that a substantial quantity of cane becomes available for crushing and making white spoon sugar.

d) The State Bank of Pakistan should earmark a sum of about Rs. 2.7 billion and direct all commercial banks to finance working capital requirement of operating sugar mills in every season through proper and vigilant loaning methods.

e) Sales Tax @ 15% is fixed on ex-factory price of Rs. 14 per kilo in case of supplies to registered person. A move to charge the sales tax on the price other than the fixed price of Rs.14/= will further create problem for the consumers whose purchasing power is already very low due to industrial sluggishness and stagnant economy. It is suggested that sales tax should not be charged on market price.

f) The Government should impose restrictions on excess production of Gur equivalent to 12.5% of the expected cane production of 40.614 million tons from the current year crop 2000=2001 to reduce the shortage of sugar in the country as well as earn sales tax revenue of more than one billion Rupees.

g) The support prices of sugarcane can not work at all through the free market forces due to the simple reason that retail price of sugar is controlled by the Government and further, the support prices of other cash crops such as wheat, rice and cotton are also fixed by the Government. Two economic theories (1) principle of supply

and demand governed by market forces and (2) Government control of retail price can not work together and will further widen the sugar crisis in the country.

h) The provincial Governments should fix the support price of Rs.40 per 40 kg for purchase of sugarcane at the factory gate as well as at the cane purchase centres under section 16 of the Sugar Factories Control Act, 1950.

The writer is Director Research of
Institute of Cost and Management
Accountants of Pakistan (ICMAP)

ABOUT THE AUTHOR

Mr. Syed Jamil Ahmed Rizvi is a fellow member of ICMAP. He served in the second largest sugar integrated project of Africa jointly owned by Tate & Lyle PLC U.K. and Government of Zambia. He also served in one of the largest sugar integrated project of the world which is located in Sudan. In Pakistan he worked in five sugar mills in Government and Public Sector Companies. Mr. Jamil Rizvi had done consultancy work in private sector sugar companies. He normally contributes research based articles. He wrote research based study on Role of Micro Credit in the Economic Revival and Poverty Alleviation. Mr. Rizvi has written research report on the Role of Small and Medium Enterprises in GDP and Macro Economic Development of Pakistan and comparative research case study of SAARC and South Asian Countries on General Sales Tax or Value Added Tax under the joint research programme of ICMAP and FPCCI. He also contributes article for leading newspaper and Pakistan Gulf & Economist.

INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

NO. SJAR/Aart.Sugar/Memo-19 December 12, 2000

MEMORANDUM

To: Badruddin Fakhri Saheb From: Syed Jamil Ahmed Rizvi
CC: Executive Director

Subject: **Article on Sugar Industry in Pakistan - Problems, Potentials**

Please refer to your discussion on the above subject. Indeed it is a matter of great pleasure for me to write a research-based article on sugar industry's crisis prevailing very dangerously these days, which has engulfed the agro-based industrial sector. Farmers have started burning their standing cane crops. Every day sugar mills are being closed after sustaining of colossal losses in the initial heating of boilers with furnace oil. The Government has adopted two parallel economic theories, which will further widen the crisis. The situation is so burning that is very difficult to control simply due to lack of planning and vision for the on-going season. The blunder mistake was that sugarcane support price was not increased by the Government and let this governed by the free market forces while Economic Coordination Committee (ECC) has been trying to control the retail price of sugar by import.

Keeping in mind the sensitive nature and the current gravity of situation of the second largest industry after textiles, I have tried my level best to cover various factors affecting the destruction of this important contributor in large-scale industries, Government revenues and GDP. I have used deep research methodology highlighting problems with their simultaneous solutions so as to make the reader understand the real situation. However, solutions have also been summarized in conclusion. Since the article is not only informative, it is built-up on the reliable facts and figures which made it lengthy. Due to its comprehensiveness a synopsis and headlines have been prepared. Tables and graphs have also been provided to support the write up and depicting the picture in a simple and quick understanding by a normal reader. The contents summary is given below:

Contents

Hope you will find the article interesting. You will agree with me when I say that immediate printing not later than 7 days may only be useful for this hot burning topic otherwise late printing will loose its utility. Reason being is that the topic is not academic. It is the practical phenomenon, which the country is facing and very difficult for the government to control the situation. The topic is that of general, public interest, Labour, Government, growers, sugar-mills, banks, DFIs and tax authorities.

Normally a research based article or case study takes minimum period of 3 to 4 months for national cause and 6 to 9 months for International Publication. But for completing this task within such a short time I am personally grateful for the prompt and active cooperation of three good performing public quoted companies – Fecto, Dewan and Crescent sugar who have provided their five year published accounts. Pakistan Sugar Mills Association, Sindh Zone has provided their five years annual reports very quickly. Special thanks to Finance Manager as well as General Manager of Fecto Sugar Mills for providing various data are acknowledged.

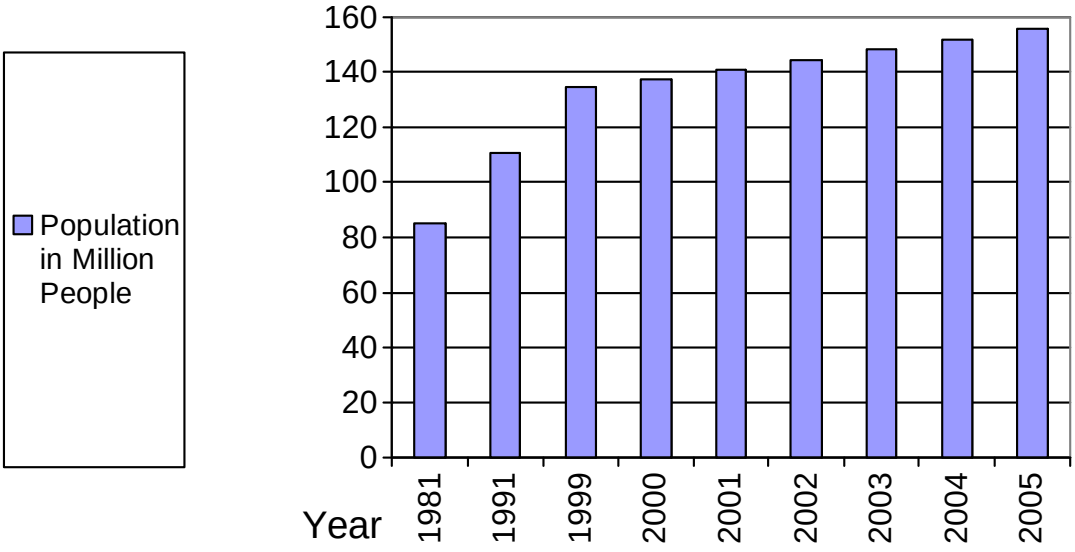
It is worth mentioning that Mr. Muhammad Nasiruddin Ahmed, a senior fellow member of ICMAP who has 38 years financial and management accounting experience as Manager Operations Accounting, Head of Group Accounting, Head of Group Financial Analysis and Superintendent – Accounting Research in Zambia Consolidated Copper Mines Limited, which is a major player in the Zambia economy contributing between 70-80 percent of GDP has also reviewed the article and gave his useful suggestions in its presentation.

Hard labour rendered by Mr. Azhar Hasan Farooqi, P.S. to Director Research and other staff are highly appreciated in assisting me for preparation of this article.

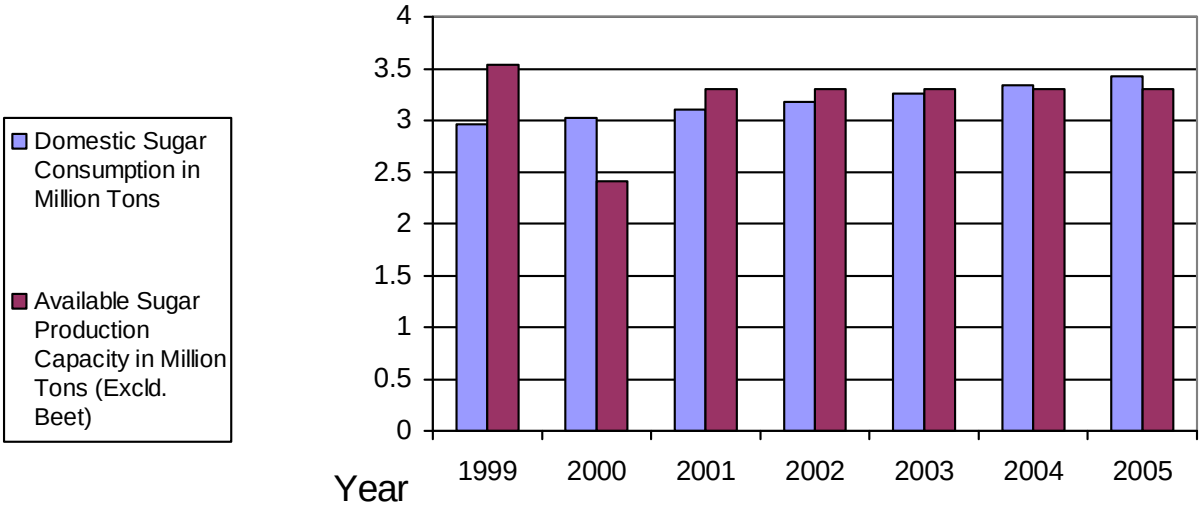
Thanks and best regards,

Syed Jamil Ahmed Rizvi, FCMA
Director Research

Graph I - Population Growth



Graph IA - Domestic Sugar Consumption



Availability Sugar capacity in 1999 and 2000 represents actual capacity utilized

SUGAR INDUSTRY CONTRIBUTION IN LARGE SCALE MANUFACTURING