

FINANCIAL PROFITABILITY OF WHITE SUGAR PRODUCTION IN PAKISTAN

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ABSTRACT:- The sugar industry in Pakistan is the second largest agro-based industry after textile. The calculation of ex-factory production cost of sugar supports the sugarcane support price programme in the country. The present paper aimed at up-dating the financial profitability of white sugar on the basis of recent data in the country. The total cost of white sugar production was Rs. 50.11kg⁻¹ in Pakistan. The estimated financial profit of white sugar production was Rs. 2.47 kg⁻¹ in the country in 2012-13. The estimated supply and demand of white sugar was worked out as 6.62 and 5.01 m t, respectively during the same period. The per capita availability (consumption kg person⁻¹ year⁻¹) was 27.18 in Pakistan. Urgent research efforts are required to ensure development of improved varieties of sugarcane with higher sucrose recovery. Effective measures are needed for disease control and optimal pesticide use. Adequate supply of water, optimal use of fertilizer and judicious use of pesticides can improve yield and hence higher financial profitability.

Key Words: Sugarcane; White Sugar; Cost of Production; Demand; Availability; Pakistan.

INTRODUCTION

The sugar industry in Pakistan is the second largest agro-based industry after textile. Pakistan is ranked fourth in the world regarding sugarcane acreage and 15th for sugar production. Sugarcane also provides raw material for the production of chipboard, paper and ethanol (GoP, 2013b). The share of sugarcane in value added agriculture is 3.2% and in GDP it is 0.7%. Sugarcane industry constitutes 4.2% of manufacturing sector and provides employment to 1.5 million people.

There were only two sugar mills in

Pakistan when the country came into existence in 1947. The sugar production of these factories was not enough to meet the domestic sugar demand. Sugar was imported from other countries and a lot of foreign exchange was spent for this purpose. During 1969, Tando Muhammad Khan in Sindh was found a suitable place to install the first sugar mill. Upto 1997-98, 2.4 million metric tons of sugar were produced by the 75 sugar mills in the country. In 2012-13 sugarcane was grown over 1.124 m ha providing the raw material for 81 sugar mills of Pakistan (Table 1).

Sugar is an important component

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Table1. Profile of sugar industry in Pakistan, 2012-13

Number of sugar mills	81
Contribution to economy	
i. GDP (%)	0.7
ii. Employment (million people)	1.5
iii. Investment (Rs. in billion)	100
Area under sugarcane (m ha 2012-13)	1.1
Total cane production (m t)	62.7
Average yield (t ha ⁻¹)	55.9
Crushing capacity (t day ⁻¹)	4093

Source: Khushk et al. (2008); GAIN Report (2013); GoP (2013a; b)

of our daily diet such as juices, soft drinks, tea, sweetmeats, biscuits, bakery items, deserts, pharmaceutical industry. This paper focusses the importance and recognizes the need to up-date the production cost of white sugar on the basis of recent data to estimate the financial profitability of white sugar production in the country which will help determine support price of sugarcane.

MATERIALS AND METHOD

The estimation of financial profitability of white sugar requires information and data on raw material (cane), manufacturing cost of sugar (processing material, salaries, wages, benefits/ bonus, consumable stores, repair and maintenances, utilities) and financial expenses (interest, insurance, depreciation, and administrative overhead). The data on the cost of raw material is derived from GAIN Report (2013). The data on the manufacturing and financial cost of white sugar were obtained from (Khushk et al., 2008), Mirza Sugar Mills Ltd. (2012) and (GoP, 2013b). The data from these three sources

were updated with inflation rate and using prices data for 2013 (GoP, 2013b). The data for sugarcane crushed and sugar and molasses made were obtained (PSMA, 2012; GAIN Report, 2013). The data on sugarcane area, cane production and yield were taken from GoP (2013a; b). The data on the wholesale price of sugarcane were obtained from GoP (2013b). Using these data, cost of production of sugar was estimated and deducting it from the retail price of sugar, the profitability of sugar production was computed for 2012-13. Sugar mills start functioning from October 1, 2012 to September 30, 2013.

RESULTS AND DISCUSSION

Cost of White Sugar Production in Pakistan

The determination of the ex-factory cost of production of white sugar is helpful in at least two ways. First, because the government had decided that the growers should be given a certain sugar quota by the sugar mills at the ex-factory cost, for specified quantities of cane delivered by them to the mills. Second, because the calculation of ex-factory production cost is needed if the mills are required to complement the sugarcane support price programme. When the price of sugarcane tends to fall as a result of its larger production and decline in the prices of *gur* and sugar in the open market, the mills may be asked by the Government to buy sugarcane from the growers at the support price to save the latter from possible losses. It may become obligatory for the Government to buy sugar from the mills at the support price level to protect the interest of the

growers (GoP, 1986). The brief description on information for the average cost of raw material, manufacturing cost and financial expenses of three mills located in different ecological zones representing all the sugar mills are briefly discussed herein.

Raw Material (Cane)

To compute the cost of raw material for producing sugar, the information on sugarcane and sugar production as well as support price of sugarcane is required.

Sugarcane and Sugar Production

During 2012-13, sugarcane is grown over 1.135 m ha and provides 62.725 m t raw material for the 81 sugar mills in Pakistan. The yield of sugarcane was 55.92t ha⁻¹. The production of 1 t sugar requires 9.78t sugarcane. Using this ratio, the total sugar production in Pakistan was 5.228 m t for 2012-13 (Table 2).

Support Price of Sugarcane

Ensuring the timely availability of quality input and fixing a sugarcane support price in consultation with all stake holders are the major strategies

adopted by the Government of Pakistan to obtain self-sufficiency and sustainability in sugar production. On the other side, focusing on value added products, cost reduction and promotion of growing high sucrose cultivars are main components of their strategies to enhance sugar production for 2012-13, the support price was estimated by Agriculture Policy Institute (GoP, 2013) and was Rs. 170, 172 and 170 40kg⁻¹ for Punjab, Sindh and KPK, respectively (Table 3).

Cost of Raw Material (Cane)

Overall 9.79 kg, sugarcane is used to produce 1 kg of sugar for 2012-13. There is a small variation of raw material producing sugar among the provinces. The Punjab province has used 9.89 t sugarcane to produce 1 kg sugar while Sindh and Khyber Pakhunkhwa have used 9.72 and 9.77 t sugarcane during 2012-13. The support price of sugarcane announced by the Government of Pakistan for Punjab, Sindh and Khyber Pakhunkhwa are Rs. 4.25, 4.30 and 4.25 kg⁻¹, respectively. Using this support price and cane used, the cost of raw material to

Table 2. Area under sugarcane and sugar production in Pakistan

Item	Punjab	Sindh	KPK	Balochistan	Pakistan
Cane area (m ha)	0.767	0.254	0.107	0.007	1.135
Cane production (m t)	43.014	14.909	4.770	0.032	62.725
Cane crushed @ 82% (m t)	35.271	1.225	3.912	0.026	40.434
Cane sugar production (m t)	3.566	1.258	0.401	0.003	5.228
Actual sugarcane (t) used to produce 1 t sugar	9.890	9.720	9.750	9.770	9.780

Source: GoP (2013b); PSMA (2012)

Table 3. Support price for sugarcane in Pakistan (Rs. 40kg⁻¹)

Province	2010-11	2011-12	2012-13
Punjab	125	150	170
Sindh	127	152	172
KPK	125	150	170
Pakistan (average)	126	151	171

Source: GoP (2013b); PSMA (2012)

produce 1 kg of sugar is Rs. 41.78 for Pakistan.

Cost of Sugar Production

The manufacturing of sugar production includes cost of salaries, wages, benefits/ bounces, and process material, consumable store, repair and maintenance, utilities, interest, depreciation, insurance, administrative overheads cost, and

packing material. During the manufacturing of sugar, the molasses are also produced which are credit to manufacturing cost of sugar production. The estimated manufacturing cost of sugar is Rs. 4.39kg⁻¹ in Pakistan (Table 4). There is slight variation in the manufacturing cost among the provinces.

Profitability of Sugar Production

The total cost of sugar production includes the cost on raw material, manufacturing cost, excise duty, development cess and market committee fee. The estimated total cost of sugar is Rs. 50.11 kg⁻¹ in Pakistan (Table 5).

The prices of sugar remained stable in domestic market. However, in March 2013 the Economic Coordination Committee, the cabinet committee responsible for economic

Table 4. Cost of sugar production in Pakistan

(Rs.kg⁻¹)

Item	Punjab	Sindh	KPK	Pakistan
Salaries, wages and bonus/benefits	1.92	1.95	1.99	1.95
Process material	0.41	0.42	0.42	0.42
Consumable store	0.02	0.02	0.02	0.02
Repair & maintenance	1.04	1.06	1.08	1.06
Utilities	1.57	1.60	1.63	1.60
Depreciation	1.07	1.08	1.11	1.09
Interest	0.48	0.49	0.50	0.49
Insurance	0.31	0.31	0.32	0.31
Administrative overheads	0.36	0.36	0.37	0.36
Packing material	0.40	0.41	0.42	0.41
Total manufacturing cost	7.58	7.70	7.85	7.71
Credit to molasses product value	3.30	3.34	3.32	3.32
Total manufacturing cost	4.28	4.36	4.53	4.39

Source: Khushk et al. (2008), Mirza Sugar Mills Ltd. (2012), and GoP (2013b).

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decisions, issued a decree in which it would allow sugar export upto 1.2 mt which, if attained would result in tight stocks that could lead to escalating domestic prices in the later part of the year (Khushk et al., 2008 ; PSMA, 2012).

The profitability of sugar production is estimated by deducting the cost of production of sugar from the average retail price of sugar in the country (Table 5). The estimated profit of sugar production arrived at Rs. 2.47 kg⁻¹ in the country. The data revealed that Khyber Pakhtunkhawa Province has relatively more profitability in sugar production followed by Sindh and Punjab during 1984-85 and 2012-13 whereas it is lowest during 2007-08 (Khushk et al., 2008).

Supply and Demand for Sugar in Pakistan

The information on sugar supply and demand production in the country for 2012-13 showed that the estimates of sugar production are

calculated using 82% sugarcane crushing rate with 9.3% sugar on average of all sugar mills recovery rate. The total supply of sugar is 6.62 m t while its demand is 5.01 m t in Pakistan and gap is the surplus for export (Table 6).

Therefore, calculation of ex-factory production cost of sugar is needed to complement the sugarcane support price programme in the country because when the price of sugarcane tends to fall as a result of larger sugarcane production and decline in the prices of *gur* and sugar in the open market, the mills may have to be asked by the Government to buy sugarcane from the growers at the support price to save the latter from possible losses and it may become obligatory for the Government to buy sugar from the mills at the support price level to protect the interest of the growers in the country. The present exercise has been carried out recognizing the need to up-date the production cost of

Table 5. Cost and profitability of sugar production in Pakistan

(Rs.kg⁻¹)

Item	Punjab	Sindh	KPK	Pakistan
Cost				
Raw material (cane)	42.03	41.80	41.52	41.78
Net total manufacturing cost	4.28	4.36	4.53	4.39
Excise duty, development cess and market committee fee	3.88	3.94	4.01	3.94
Total cost of sugar production	50.19	50.10	50.06	50.11
Profitability				
Retail price of sugar	52.58	52.58	52.58	52.58
Cost of production	50.19	50.10	50.06	50.11
Profit	2.39	2.48	2.52	2.47
Profit (Rs. 40 kg ⁻¹)	95.60	99.20	100.80	98.80
Profit (Rs. t ⁻¹)	2390	2480	2520	2470

Table 6. Sugar production, import, export and net availability in Pakistan

S.No	Item	2012-13
1.	Sugarcane plantation (m ha)	1.135
2.	Sugarcane produced (m t)	62.725
3.	Sugarcane crushed (with 82% utilization m t)	51.434
4.	Sugar produced from cane (m t)	5.228
5.	Sugar produced from sugar beet (m t)	0.020
6.	Total sugar production (m t)	5.280
7.	Opening stock on first October (2010 & 2011) (m t)	1.340
8.	Supply of sugar (m t)	6.620
9.	Sugar refined from raw	0.000
10.	Raw imports	0.000
11.	Refined imports	0.000
12.	Raw exports	0.000
13.	Refined exports (m t)	0.300
14.	Closing stock on 30 th September, 2011 & 2012 (m t)	1.310
15.	Net available sugar (8)-(13)-(14) = demand for sugar (m t)	5.010
16.	Population (million)	184.350
17.	Per capita availability (consumption kg person ⁻¹ year ⁻¹)	27.180

Source: GAIN report (2013).

white sugar on the basis of recent data in the country. The estimated total cost of white sugar production is arrived at Rs. 50.11 t⁻¹ in Pakistan. The estimated profit of white sugar production is arrived at Rs. 2.47 t⁻¹ in the country. The estimated supply of white sugar and demand are 6.62 and 5.01 m t, respectively. The per capita availability (consumption kg person⁻¹ year⁻¹) is 27.18 in Pakistan. The government needs to disseminate high sucrose varieties of sugarcane through agricultural research institutes and efficient measures required for disease and insect pest control. Efforts are urgently required to en-

sure timely availability of adequate supply of water, optimal and balanced use of fertilizer and efficient application of insecticides and pesticides can enhance yield resulting in higher financial profitability for producing white sugar in the country.

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