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Report Highlights:

Marketing year (MY) 2019/20 (out-year/Oct.-Sept.) centrifugal sugar (henceforth sugar) production will decline for the second consecutive year to 29.3 million metric tons (MMT) (including 620,000 metric tons (MT) of khandsari), which is 14.6 percent below the previous season. A lower than expected diversion of sugarcane (hence cane) for crushing to sugar and net reduction in the national average sugar recovery rate will moderate sugar output. Surplus sugar production in Uttar Pradesh (UP) will not be enough to compensate for a straight 41 percent and 12 percent drop in sugar production from Maharashtra and Karnataka, respectively, but a large beginning inventory should support domestic consumption estimated at 28.5 MMT. With current incentives and normal market conditions, India should be able to export some 4 MMT of excess sugar in the out-year. Note: All sugar data in the report are raw value basis unless otherwise mentioned.

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Production:

MY 2019/20 Centrifugal Sugar Production Now Estimated at 29.3 MMT

India's out-year centrifugal sugar production will decline for the second consecutive year to 29.3 MMT, which is 14.6 percent below the previous season. This forecast includes 620,000 metric tons (MT) of *khandsari* (a local type of low-recovery sugar prepared by open-pan evaporation) and 28.7 MMT of mill sugar (equivalent to 26.8 MMT of crystal white sugar, see Table 4).

Additionally, as compared to the previous season (MY2018/19), a lower than expected diversion of cane for sugar production (due to limited cane availability in Maharashtra and Karnataka and pending cane arrears in Uttar Pradesh) and an expectation of a net reduction in the national average sugar recovery rate¹ will moderate sugar output². However, successive benefits from the dedicated supply of cane juice/B-heavy molasses for fuel ethanol production will continue to incentivize sugar mills to divert excess sugar for fuel ethanol production, improve their cash flows (see section below on 'Ethanol Program'), and settle pending arrears.

Uttar Pradesh (UP) will be the largest sugar producer in India but its output will not be enough to compensate for a straight 40 percent and 12 percent drop in sugar production in Maharashtra and Karnataka, respectively. Combined, these three states will still contribute 80 percent of total sugar production in the out-year. In addition, Post has revised India's sugar production in MY2018/19 to 34.3 MMT, up 3.7 percent above its prior assessment (April 2019) to include slightly higher sugar output from Uttar Pradesh.

Given the incentives for farmers to supply their canes to sugar mills, jaggery units will need to improve their terms of purchase to ensure adequate supplies by offering better prices or more favorable payment terms. In turn, Post expects cane supply to *gur* (jaggery or crude, non-centrifugal lump sugar) manufacturing units will rise above normal levels: the out-year *gur* production is expected to exceed 7.2 MMT, a 31 percent increase over last season.

Sugarcane Production in MY 2019/20 Will Decline Eight Percent to 370 MMT on 5.2 MH

Based on the latest 2019 *kharif* crop planting update from India's Ministry of Agriculture and Farmers Welfare (MinAg), Post has revised its sugarcane planting and production estimate in MY2019/20 to 370 MMT on 5.2 million hectares. Out-year sugarcane production is forecast eight percent below MY2018/19 mostly due to (1) net decline in sugarcane planting, (2) slightly lower than anticipated cane yields (national average), and (3) relatively larger share of ratoon crops (as dry weather and water distress prevented farmers from planting new canes³). Increased use of ratoon, root stubs which are cheaper to cultivate but

¹ From an average 11.64 percent to 11.52 (estimated) but still above the most recent 5-year average of 11 percent.

² A significant rise in the planted area of high-yielding, high-recovery, and early-maturing cane variety (Co-0238), particularly from northern India, may partially make-up for a 'lower than expected' sugar recovery from Karnataka and Maharashtra. The cane variety described above has been in commercial cultivation the last 6 years and occupies two-thirds of total cane planted.

³ Please note: a prolonged and severe drought like condition could lead to lower than expected cane yield and consequently bring down the national (average) recovery, even below the forecast levels. As a result, the major growing regions of Karnataka and

less productive than new plantings, will weigh on cane yields. Post estimates cane yield at 70.5 MT/ha compared to its 5-year average of 73 MT/ha and MY2018/19's average of 72.4 MT/ha. Also, as indicated earlier in the April 2019 forecast, at that time cane crop planting was already down, particularly in Maharashtra and parts of Karnataka due to dry weather earlier in the season.

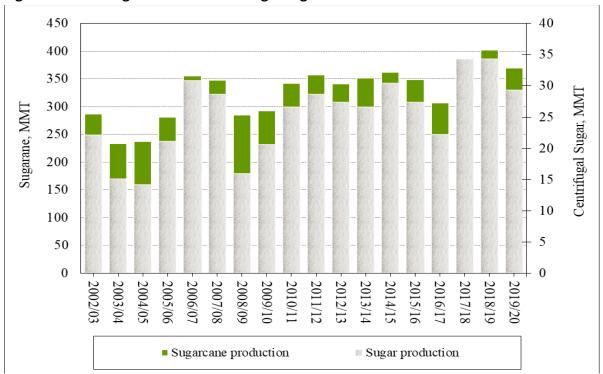


Figure 1. India: Sugarcane and Centrifugal Sugar Production

Source: Industry and trade sources

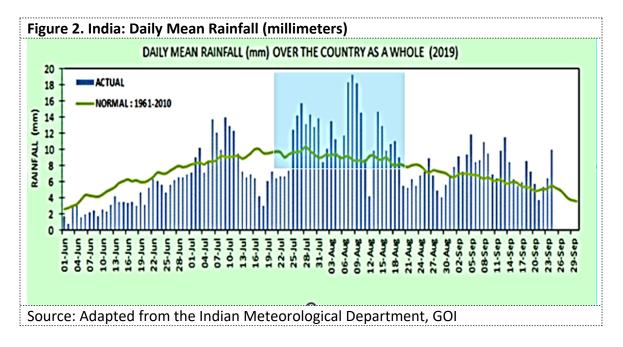
The recent receipt of heavy and above normal rainfall in first fortnight of August 2019 (Figure 2 below) is reported to have caused crop damage to major 2019 *kharif* (fall harvested) crops including sugarcane planted in certain regions of western Maharashtra and north Karnataka (and consequently reduced availability of canes for crushing). The extent of crop damage will only be available after water recedes from inundated fields and respective state governments come out with the official results post survey. Also, the recent published first advance estimate from MinAg for crop season 2019/20 (July-June) indicates sugarcane production at 377.8 MMT, while setting its target at 385.5 MMT.

i) Further on the weather front: The latest press release from the Indian Meteorological Department (IMD) indicates 2019 cumulative precipitation from June 1 to Sept. 18 (for pan India) was five percent above normal. Both central India and the south peninsula had already received above normal rainfall through mid-September and are projected to receive further heavy rains particularly under the influence of a low-pressure area (in Arabian Sea) reported for the week of September 19⁴. Receipt of additional rains usually augers well for winter crops but indication of late monsoon withdrawal will extend both harvesting of canes

Maharashtra experienced water rationing.

⁴ Sugarcane is a sturdy and resilient crop and can withstand stress unless it's overwhelming.

and planting of winter crops such as wheat and lentils. In addition (as of Sept. 13, 2019) water levels in major reservoirs in Uttar Pradesh (Central region) and Maharashtra (Western India) are well above last year's level and above the 10-year average. However, Andhra Pradesh and Telangana, Karnataka, Tamil Nadu (Southern region) reported reservoir levels equal to last year's level but higher than the decadal average.



ii) Fair and Remunerative Price: The Union Cabinet decided that the Fair and Remunerative Price (FRP) for sugarcane in MY 2019/20 will remain unchanged at INR 275/quintal (1 qtl=100 kg). There will be a premium of Rs. 2.75/qtl for each 0.1 percent increase in recovery over and above 10 percent (PIB Press release FRP). The FRP is determined based on recommendations of the Commission for Agricultural Costs and Prices (CACP) and after consultation with State Governments and other stakeholders⁵.

iii) Cane Arrears: Payment of cane price to sugarcane growing farmers by the sugar mills is a continuous process. The total cane arrears are coming down but still total sugarcane price arrears as of July 7, 2019 are estimated at \$2.5 billion, of which 87 percent is due for MY 2018/19 and the rest is accrued from previous sugarcane crushing seasons. The state wise break-up however tells that Uttar Pradesh owes a maximum 57 percent followed by Tamil Nadu, Maharashtra, and Punjab at 11 percent, 6 percent, and 5.4 percent, respectively. The above information was retrieved from a PIB press release, which said that the information was in principle provided as a written reply by the Minister of State for Consumer Affairs, Food & Public Distribution, Mr. D.R. Dadarao in the Upper House on July 23, 2019. (Source: PIB Press Release on Cane Arrears and PIB Press Release July 19, 2019).

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⁵ Recommended FRP accounts for various factors such as: cost of production, overall demand-supply situation, domestic and international prices, inter-crop price parity, terms of trade prices of primary by-products, and likely impact of FRP on general price level and resource use efficiency.

Concurrently, Post has revised MY2018/19 sugarcane production to 402 MMT from 5.5 million hectares. Larger than expected cane planting in Uttar Pradesh and marginal increase in acreage in Maharashtra and Karnataka will partly compensate for the drop in cane yield (national average) and help produce upwards of 4 percent more cane than previously anticipated. The fourth advance estimate from Ministry of Agriculture and Farmers Welfare for crop season 2018/19 considered sugarcane production at 400.2 MMT.

Consumption:

Out-year and current year sugar consumption forecasts remain unchanged at 28.5 MMT, and 27.5 MMT, respectively (Table 1). As indicated earlier, India's stable and growing economy, rising income levels, and changing food habits and consumption patterns will boost food consumption, including sugar. Demand from bulk users and institutions particularly during the festive months will remain strong.

In addition, there is a growing consumer perception towards eating healthier food (less oil and sugar) which may pose a downside risk, but not till mid-term. Also, most *khandsari* sugar is consumed by local sweet shops while *gur* is mostly consumed in rural households due to its availability and affordability (as compared to white sugar). It is regarded as a good source of energy and rural families use it in feeds as well as foods.

Market Prices

Indian sugar prices continue to remain strong, particularly since April 2018 when wholesale sugar was selling at INR 29,500 per MT. From that point on, sugar price gained 24 percent to INR 36,500/MT in September 2019, which is at par with prevailing *gur* price. Concurrently, *gur* bottomed out in Feb. 2019 and rallied 30 percent to peak at INR 38,000 per MT a month ago because of relatively shorter cane supply (as much was diverted to sugar mills). Generally, *gur* prices move in tandem with sugar prices either at a premium or at a discount in response to domestic and international price movements (Figure 2).

Currently, international sugar is selling at more than a 38 percent discount to Indian sugar (wholesale), a gap which has widened further, now by 14 percent in the last 12 months, driven in part by Indian rupee appreciation of less than 2 percent (relative to USD). However, subsidies and supports can only make Indian sugar a bit competitive.

Figure 2. India: Sugar and Gur Prices in Delhi Market



Source: Industry and Trade sources

Trade:

Trade Policy

Anticipating rising cane arrears (owed by sugar mills) and a large beginning stock, the Cabinet Committee on Economic Affairs, on August 28, 2019, approved a sugar export subsidy of Rs. 10,448⁶ per MT to sugar mills for MY2019/20. The total estimated expenditure is \$876.7 million or Rs 62.7 billion. The subsidy is provided to cover marketing expenses such as handling, upgrading processing costs, and freight (international and internal) charges. The Maximum Admissible Export Quantity (MAEQ) allocated to sugar mills for MY 2019/20 is 6 MMT.

The subsidy would be credited directly into farmers' accounts on behalf of mills against cane prices due and subsequent balance, if any, would be credited to the mill's account. [The subsidy shall be in conformity with the provisions of Article 9.1 (d) and (e) of the Agreement on Agriculture (AoA) and thus WTO compatible (more info \rightarrow PIB Press Release)].

An import duty of 100 percent on white and raw sugar has been in effect since February 6, 2018; and there is zero duty on exports since March 20, 2018.

Import and Export

⁶ In MY 2018/19, the subsidy (raw material subsidy (sugarcane) of Rs 130 per metric ton + transport charge Rs 1000 to 3000 per MT) worked out to be Rs 2,300-4,300 per ton of sugar meant for export.

After accounting for domestic consumption, a 3-month normative stock requirement and assuming the buffer-stock scheme extends through July 2020, there will still be an estimated 7.5 MMT of surplus sugar in MY 2019/20. Although international sugar prices are currently bearish (white sugar quoted at \$323/MT as of Sept. 16, 2019 against \$508/MT local price, Delhi market) due to large global stocks, indicating declining global demand, exports should help offset some 4 MMT of excess sugar, only after its subsidized.

Assuming normal market conditions in MY 2019/20, India should be able to export 5 MMT of sugar (both refined and raw), of which an estimated 4 MMT will be commercial sale and another 1 MMT will be sugar re-exported under the Advance Authorization scheme (AAS) scheme. Imports are likely to be negligible since supply will exceed requirements for both consumption and stocks.

Similarly, sugar exports in the current year (MY 2018/19) will be close to 4.7 MMT, of which an estimated 1.1 MMT will be sugar re-exported under the AAS; the remaining 3.6 MMT will be commercial sales under the mandatory Minimum Indicative Export Quota (MIEQ 2018-19). Recent trade data indicates India imports the most sugar from Brazil, and very small quantities of sugar (mostly *nesoi*, including chemically pure lactose, caramel, etc.) from China and the United States. As for white/refined sugar exports, Sudan, Bangladesh, Iran, Somalia, Sri Lanka, Saudi Arabia, the Netherlands, and the United Kingdom are few major buyers. Note: all sugar exports under MIEQ are over and above the exports made under the AAS, or Duty Free Import Authorization (DFIA).

Stocks

Sugar ending stocks for MY 2019/20 are estimated at 14.9 MMT, almost 15 percent below MY2018/19's 17.6 MMT. The stocks includes 4 MMT of buffer for current and out-year which is carried forward as excess supply (above export sales, normal stocks, and consumption requirements). Growing consumption and an anticipated rise in exports will curtail surplus inventory and bring down the stock-use ratio from 64 percent to 52 percent. The ending stocks will serve 6 months' consumption against the ideal requirement of 2-3 months.

The Ministry of Consumer Affairs, Food and Public Distribution, GOI notified on July 31, 2019, the creation and maintenance of 4 MMT of buffer stock for the period of one year starting August 1, 2019. The funds to be provided to the sugar mills as reimbursement of the carrying cost towards maintenance of the buffer stock are to be used firstly for payment of cane price dues of farmers for the current sugar season 2018-19 and 2019-20 as also for arrears of previous sugar seasons (DFPD Notification).

Ethanol Program

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⁷ An exception involves the Duty Free Import Authorization (DFIA) scheme. Under this scheme, exporters are allowed to import sugar duty free **after** meeting an export obligation. By contrast, the Advance Authorization scheme (AAS) allows local sugar millers or exporters to import raw sugar duty-free against a **future** export commitment.

On September 3, 2019, the Cabinet Committee on Economic Affairs approved a further increase in the purchase price of ethanol for blending with gasoline for one year from December 1, 2019 to November 30, 2020. All distilleries will be able to benefit from the scheme. The remunerative price to ethanol suppliers will help reduce cane farmers' arrears, in the process contributing to minimizing difficulties for sugarcane farmers (Source: PIB Press Release Sept-2019).

The price changes are as follows:

- ✓ The price of ethanol from C heavy molasses route be increased from Rs.43.46 per lit to Rs.43.75 per liter
- ✓ The price of ethanol from B heavy molasses route be increased from Rs.52.43 per lit to Rs.54.27 per liter
- ✓ The price of ethanol from sugarcane juice/sugar/sugar syrup route be fixed at Rs.59.48 per liter
- ✓ Additionally, Goods and Service Tax and transportation charges will also be payable. Oil Marketing Companies have been advised to fix realistic transportation charges so that long distance transportation of ethanol is not dis-incentivized
- ✓ OMCs are advised to continue according priority of ethanol from 1) sugarcane juice/sugar/sugar syrup, 2) B heavy molasses 3) C heavy molasses and 4) Damaged Food grains/other sources, in that order

Statistical Tables:

Production, Supply and Demand Data Statistics:

Table 1. India: Centrifugal Sugar (Raw Value Basis), in Thousand Tons						
Sugar, Centrifugal	2017/2018		2018/2019		2019/2020	
Market Begin Year	Oct 2	017	Oct 2018		Oct 2019	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	6570	6570	14214	14214	17584	17614
Beet Sugar Production	0	0	0	0	0	0
Cane Sugar Production	34309	34309	33070	34300	30305	29300
Total Sugar Production	34309	34309	33070	34300	30305	29300
Raw Imports	2054	2054	1200	1300	1000	1500
Refined Imp.(Raw Val)	17	17	0	0	0	0
Total Imports	2071	2071	1200	1300	1000	1500
Total Supply	42950	42950	48484	49814	48889	48414
Raw Exports	46	46	50	1100	100	1000
Refined Exp.(Raw Val)	2190	2190	3350	3600	3400	4000
Total Exports	2236	2236	3400	4700	3500	5000
Human Dom. Consumption	26500	26500	27500	27500	28500	28500
Other Disappearance	0	0	0	0	0	0
Total Use	26500	26500	27500	27500	28500	28500
Ending Stocks	14214	14214	17584	17614	16889	14914
Total Distribution	42950	42950	48484	49814	48889	48414

Note: Stocks include only milled sugar, as all *khandsari* sugar produced is consumed within the marketing year. Virtually no centrifugal sugar is utilized for alcohol, feed, or other non-human consumption. Includes 4 MMT of buffer carried forward since July 2019.

Table 2. India: Sugarcane, Centrifugal, Area in Thousand Hectares and others in Thousand Tons							
Sugar Cane for Centrifugal	2017/2018		2018/2019		2019/2020		
Market Begin Year	Oct 2018		Oct 2018		Oct 2019		
India	USDA Official	New Post	USDA Official New Post		USDA Official	New Post	
Area Planted	4730	4730	5060	5550	4650	5250	
Area Harvested	4730	4730	5060	5550	4650	5250	
Production	377000	377000	385000	402000	355000	370000	
Total Supply	377000	377000	385000	402000	355000	370000	
Utilization for Sugar	294000	294000	275000	290000	253000	244000	
Utilizatn for Alcohol	83000	83000	110000	112000	102000	126000	
Total Utilization	377000	377000	385000	402000	355000	370000	

Note: Virtually no cane is utilized directly for alcohol production. 'Utilization for alcohol' in the PS&D includes cane used for *gur*, seed, feed and waste. 'Utilization for sugar' data include cane used to produce mill sugar and *khandsari* sugar

Table 3. India: Sugarcane Area, Production, and Utilization

Sugar	Area ¹	Yield ¹	Product ¹	Sugar ¹	Khandsari ²	Gur ²	Seed ²
Cane	Mha	MT/ha	MMT	MMT	MMT	MMT	MMT
1990/91	3.69	65.39	241.05	122.32	13.18	76.63	28.93
1995/96	4.15	68.02	282.09	174.76	10.00	67.27	30.06
2000/01	4.32	69.35	299.32	176.65	11.00	75.75	35.92
2001/02	4.41	67.09	295.95	180.32	10.50	69.62	35.51
2002/03	4.52	63.58	287.38	194.33	9.50	49.07	34.49
2003/04	3.94	59.39	233.86	132.51	10.00	63.29	28.06
2004/05	3.66	64.74	237.08	124.77	9.50	74.36	28.45
2005/06	4.20	66.93	281.17	188.67	8.50	50.26	33.74
2006/07	5.15	69.03	355.52	222.00	10.00	80.86	42.66
2007/08	5.06	68.81	348.18	249.91	7.00	49.49	41.78
2008/09	4.44	64.19	285.02	145.00	6.50	99.32	34.20
2009/10	4.18	70.01	292.30	185.55	6.50	65.17	35.08
2010/11	4.89	70.09	342.38	240.00	7.50	53.79	41.09
2011/12	5.08	71.07	361.03	257.00	7.00	53.70	43.32
2012/13	5.06	67.38	341.20	251.50	7.00	41.75	40.94
2013/14	5.01	70.26	352.14	234.32	8.00	67.56	42.25
2014/15	5.14	70.44	362.33	265.40	8.00	45.45	43.48
2015/16	4.96	70.25	348.45	238.00	8.50	60.13	41.81
2016/17	4.38	70.02	306.70	193.30	8.50	68.09	36.80
2017/18	4.73	79.70	377.00	294.00	8.00	29.76	45.24
2018/19	5.55	72.43	402.00	290.00	9.00	54.76	48.24
2019/20	5.25	70.48	370.00	244.00	10.00	71.60	44.40

Note: Figures for 2018/19 and 2019/20 are FAS estimates.

Source: ¹ Directorate of Economic and Statistics, Ministry of Agriculture

² FAS/New Delhi Estimate.

Table 4. India: Mill Sugar Production by State

(Thousand metric tons, crystal weight basis)

☐ State / MY →	2017/18	2018/2019	2019/20
$ \downarrow\downarrow$	Revised	Estimate	Forecast
Andhra Pradesh	7.5	7.6	7.6
Bihar	6.4	6.6	6.5
Gujarat	11.1	11.6	12.0
Haryana	4.4	4.5	4.6
Karnataka	36.5	41.0	36.0
Maharashtra	107.2	107.2	63.0
Punjab	6.7	5.5	5.6
Tamil Nadu	6.3	7.0	6.0
Uttar Pradesh	120.7	118.2	115.0
Others	9.2	11.0	11.6
Total	316.00	320.21	267.90

Sources: MYs 2017/18 is industry and government estimate; MYs 2018/19 and 2019/20 – FAS/New Delhi Estimate.

Note: Excludes *khandsari* sugar, as state-wise breakout is not available.

Table 5. India: Commodity, Centrifugal Sugar, Price Table

(Prices in INR per MT)

Year	2017	2018	2019	Percent Change
January	39,400	33,800	34,100	1
February	39,700	36,100	34,300	5
March	38,400	32,500	33,400	3
April	39,000	29,500	34,500	17
May	39,700	30,700	35,800	17
June	39,200	34,000	35,100	3
July	39,910	34,400	34,900	1
August	40,300	33,800	36,400	8
September	40,360	34,500	36500	6
October	40,260	34,800		
November	39,450	33,500		
December	36,700	33,500		
Exchange Rates:	65.12	67.12	69.32	
	Local Currency INR,			

Note: Exchange rates for 2017, 2018 and 2019 refer to respective Marketing Years (October–September). **Source & Contract Terms:** Indian Sugar Mills Association, NFCSF and Department of Consumer Affairs (GOI); month-end prices in the Delhi wholesale market.

Table 6. India: Commodity, Gur, Price Table

(Prices in INR per MT, actual weight basis)

Year	2017	2018	2019	Percent Change
January	32,000	28,500	29,000	1.75
February	31,000	28,000	30,000	7.14
March	32,000	27,000	31,500	16.67
April	32,500	28,500	33,500	17.54
May	35,500	31,000	34,500	11.29
June	36,000	32,000	34,500	7.81
July	37,500	35,000	35,500	1.43
August	36,080	35,500	38,000	7.04
September	36,980	37,500	36,500	2.67
October	36,430	32,000		
November	32,580	29,500		
December	31,120	30,000		
Exchange	65.12	67.12	69.32	
Rate:	Local Currency INR/L	JS\$		

Note: Note: Exchange rates for 2017, 2018 and 2019 refer to respective Marketing Years (October–September).

Source & Contract Terms: Indian Sugar Mills Association, NFCSF and Department of Consumer Affairs (GOI); month-end prices in the Delhi wholesale market.

Attachments:

No Attachments