SUGAR AND ALLIED INDUSTRY

DEC 2019

Process Flow

- Sugarcane
  - Sugar
  - Molasses
    - Ethanol
  - Bagasse
    - Power
    - Paper & Chipboard

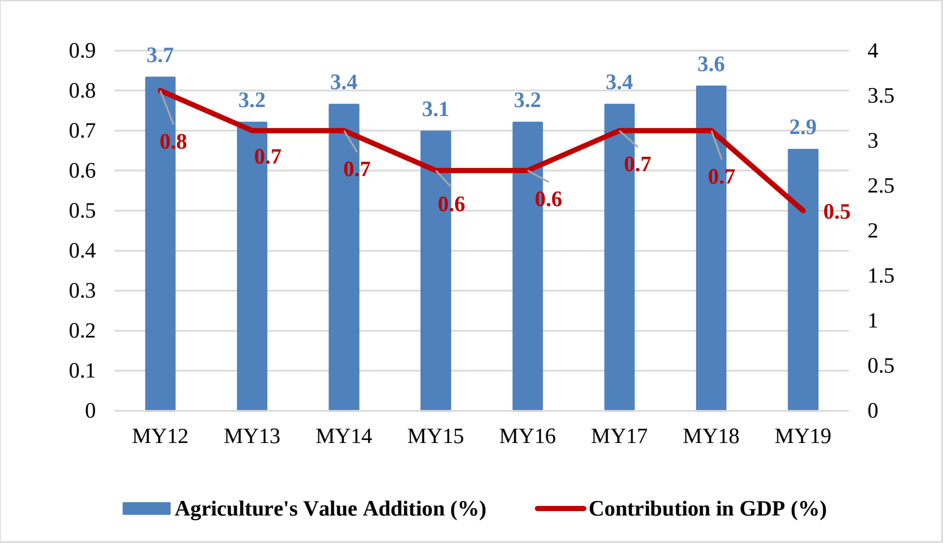
Supply Chain | Where do they fall?

Farmer → Sugar Mill → Distributor &/or Industrial Consumers → Retail Stores → End Customer

Sugar Industry | Key Stats

In MY19:

- Value Addition in Agriculture ~ ↓ to 2.9%
- Contribution in GDP ~ ↓ to 0.5%
- Total No. of Industry Players ~ 75
- Total No. of Listed Players - 30
- Total No. Mills ~ 90
- Total Sugar Production ~ 5.3mln tons
- Total Sugar Consumption ~ 5.4mln tons
- Average Per Capita Sugar Consumption:
  - Pakistan ~ 25.6 kg
  - Global ~ 23.1 kg



Source: Economic Survey, Pakistan Bureau of Statistics and Pakistan Sugar Mills Association Annual Report, USDA Foreign Agricultural Services GAIN Report, World Food Outlook – May'19

Sugar Industry | Key Stats

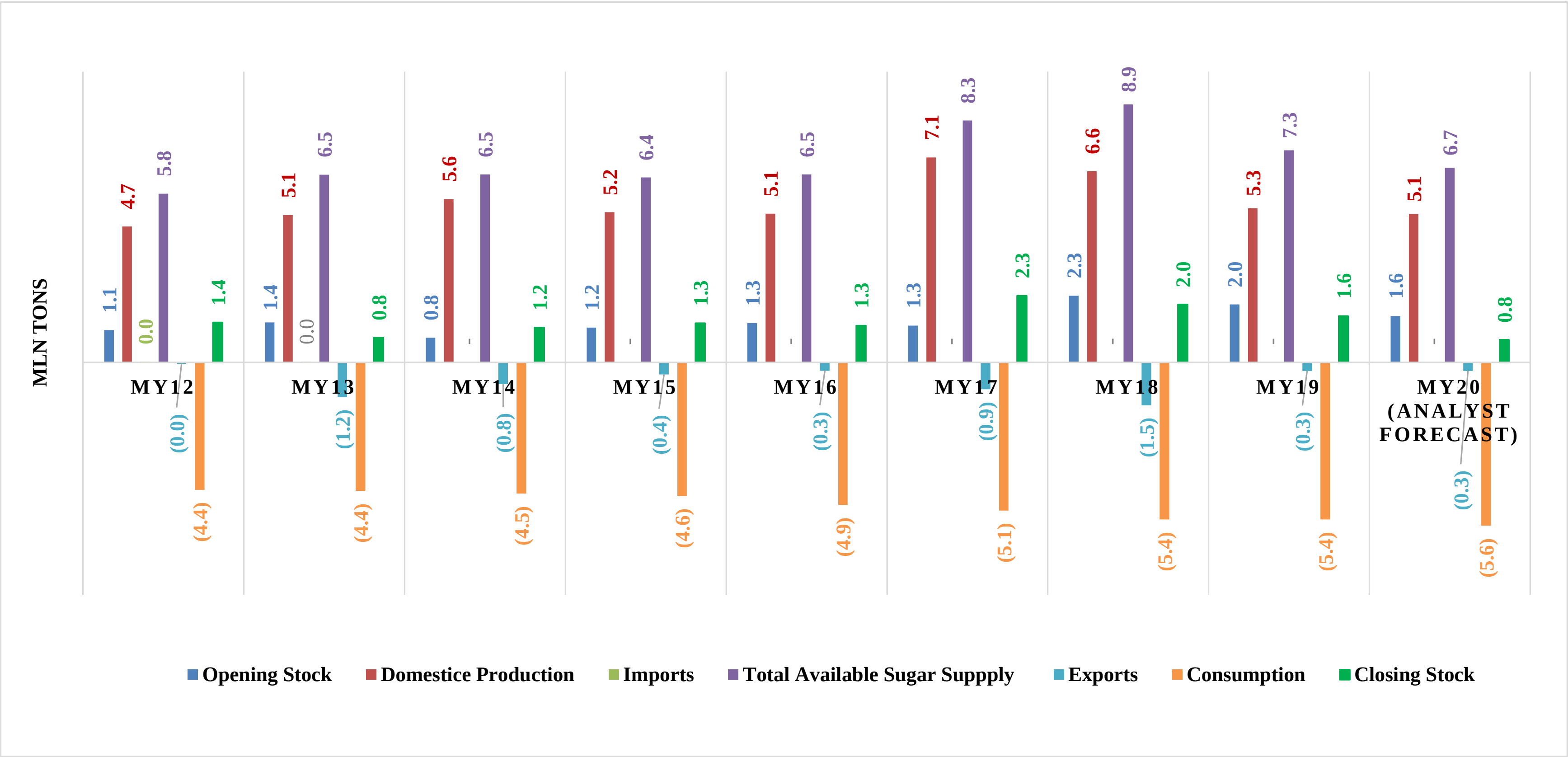
In MY19:

- Cultivated land declined by ~12%
- Sugar production declined by ~16%
- Allowed Export Quota ~ upto 1 mln tons
    - Without freight subsidy, except Punjab @ Rs 5.3/Kg
- Meagre exports ~ 0.2mln ton till Oct -Mar’19 (SMPLY: 0.8mln tons)
    - *Reason:* Low prices in international market compared to 0.8mln MT in SMPLY.

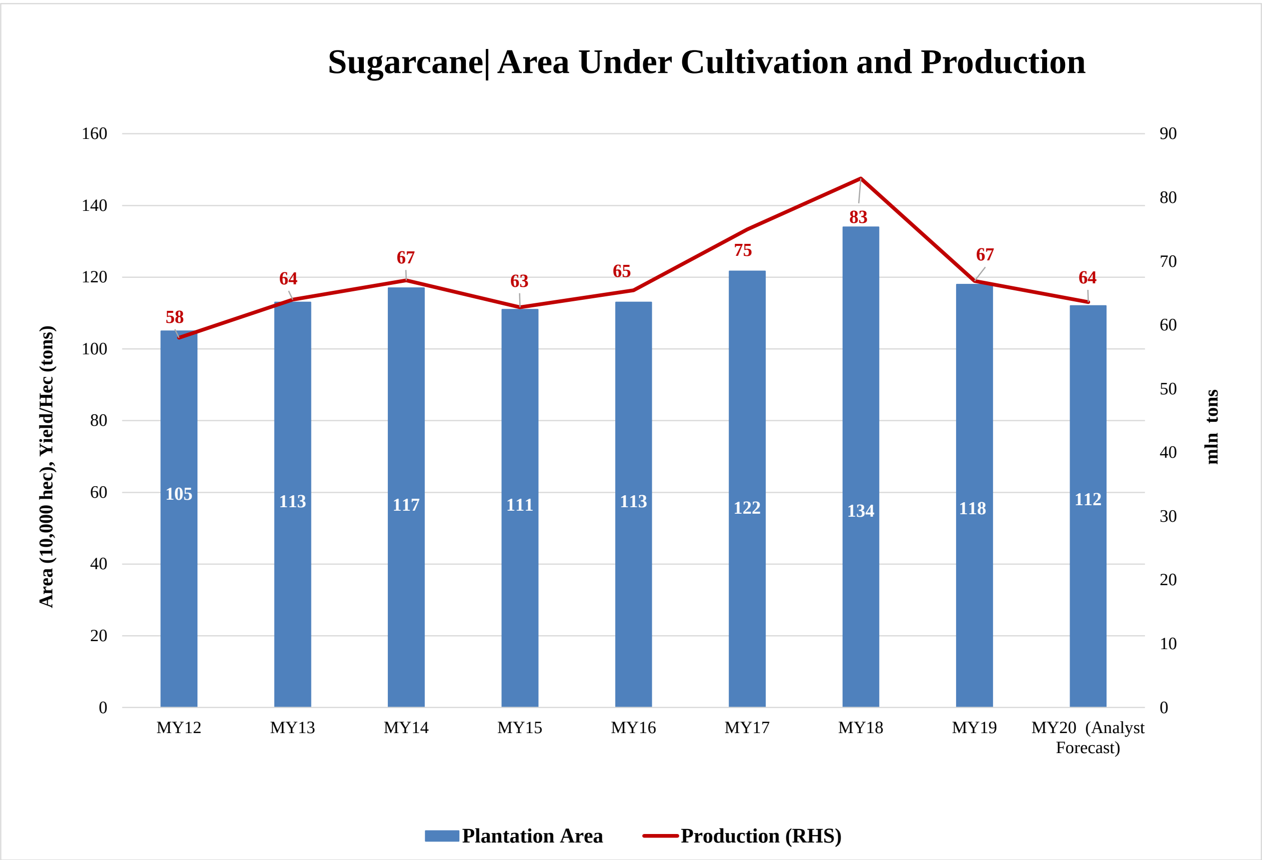
Key Assumptions for MY20 (Analyst Forecast):

- Cultivated land projected ~ dip by 5%
- Sugar production projected ~ dip by 5%
- Exports may decline to 0.3mln tons as:
    - In domestic market: demand barely met *plus* maintains minimum stock levels
    - In international market: low sugar prices making exports non-competitive

Sugar Industry Dynamics



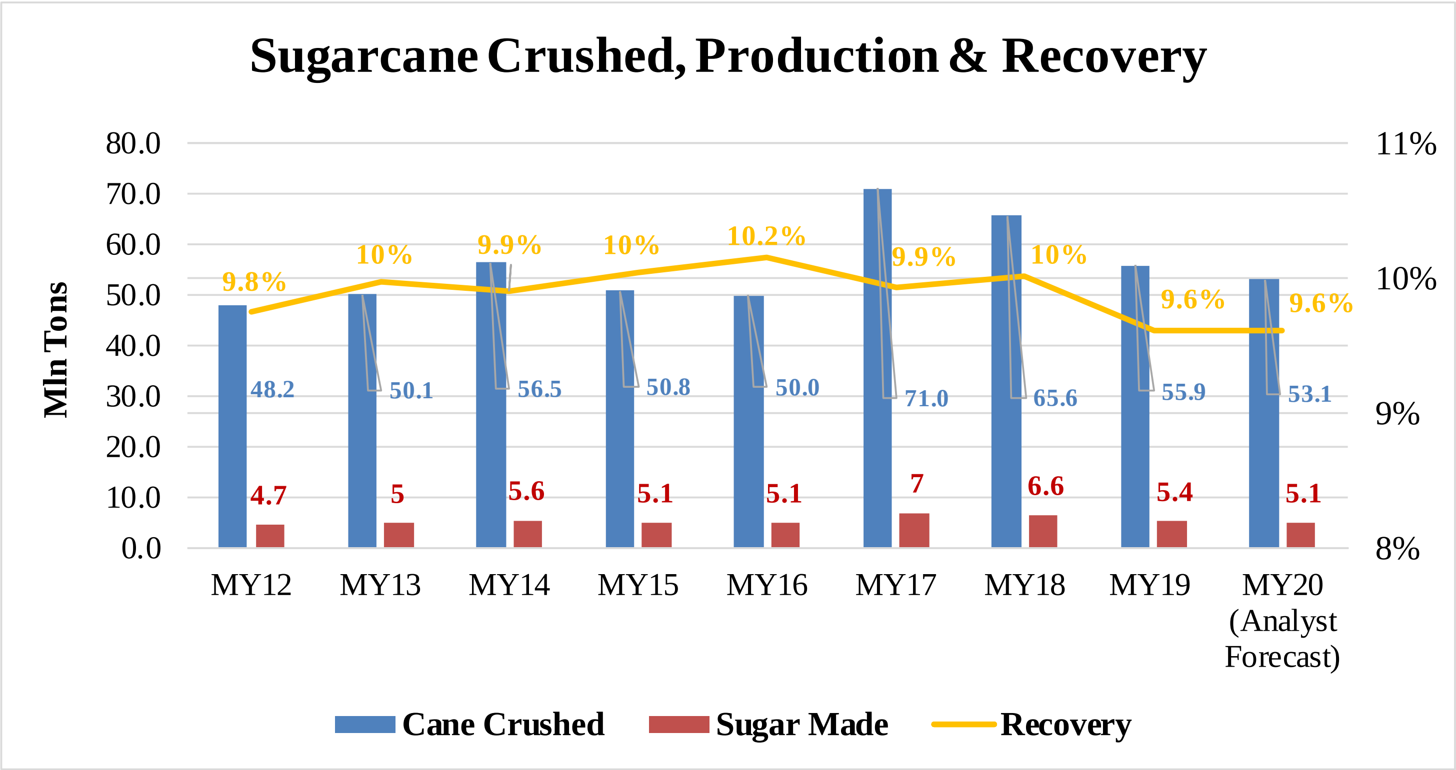
Sugarcane | Cultivation and Production



- Government support for farmers by notifying minimum sugarcane price led the area under cultivation to increase
- In MY19, water shortage posted a dip in area under cultivation
- Sugarcane cultivation area: Punjab ~ 65%, Sindh ~ 25% and KPK~ 10%
- In MY20, water crisis are expected to further reduce the area under cultivation

Source: MY20 – Production Target (69 mln tons) - Monetary Policy Compendium - PBS & Planning Commission of Pakistan, USDA Foreign Agricultural Services GAIN Report, Pakistan Sugar Mills Association Annual Report

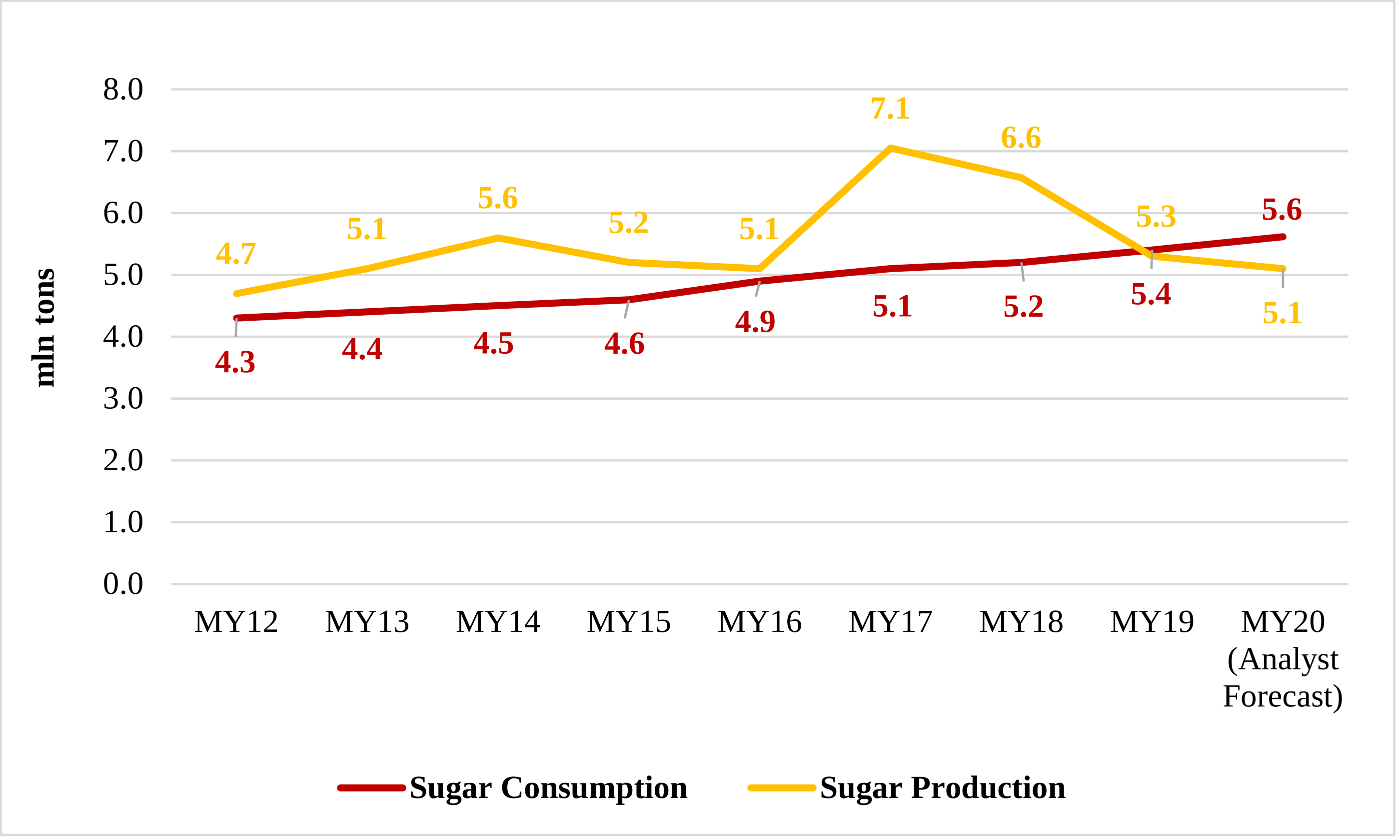
Sugarcane | Processing



- Lower than global average recovery rate in Pakistan (Brazil ~ 14%, India ~ 11.5%)
- Higher recovery rates in Sindh
- Significant R&D initiatives required to improve recovery rates

Source: USDA Foreign Agricultural Services GAIN Report, Pakistan Sugar Mills Association Annual Report, MY19 - Based on average utilization by mills and provisional Sugar production data

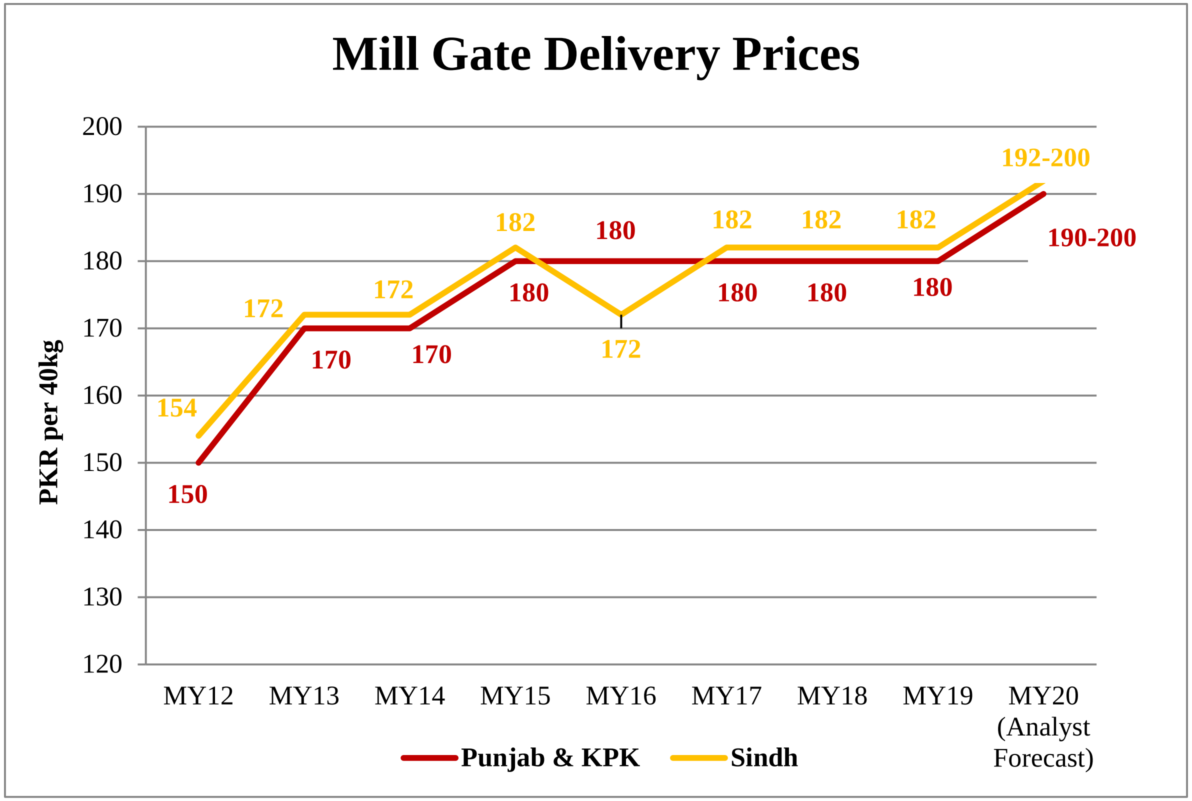
Sugar | Production vs. Consumption



- ➢ Local Market: Surplus production than required consumption level
- ➢ Domestic consumption increase in line with population growth
- ➢ Soft Drink and Confectionary Industry constitute a significant portion of in Sugar consumption

Source: USDA Foreign Agricultural Services GAIN Report, Pakistan Sugar Mills Association Annual Report

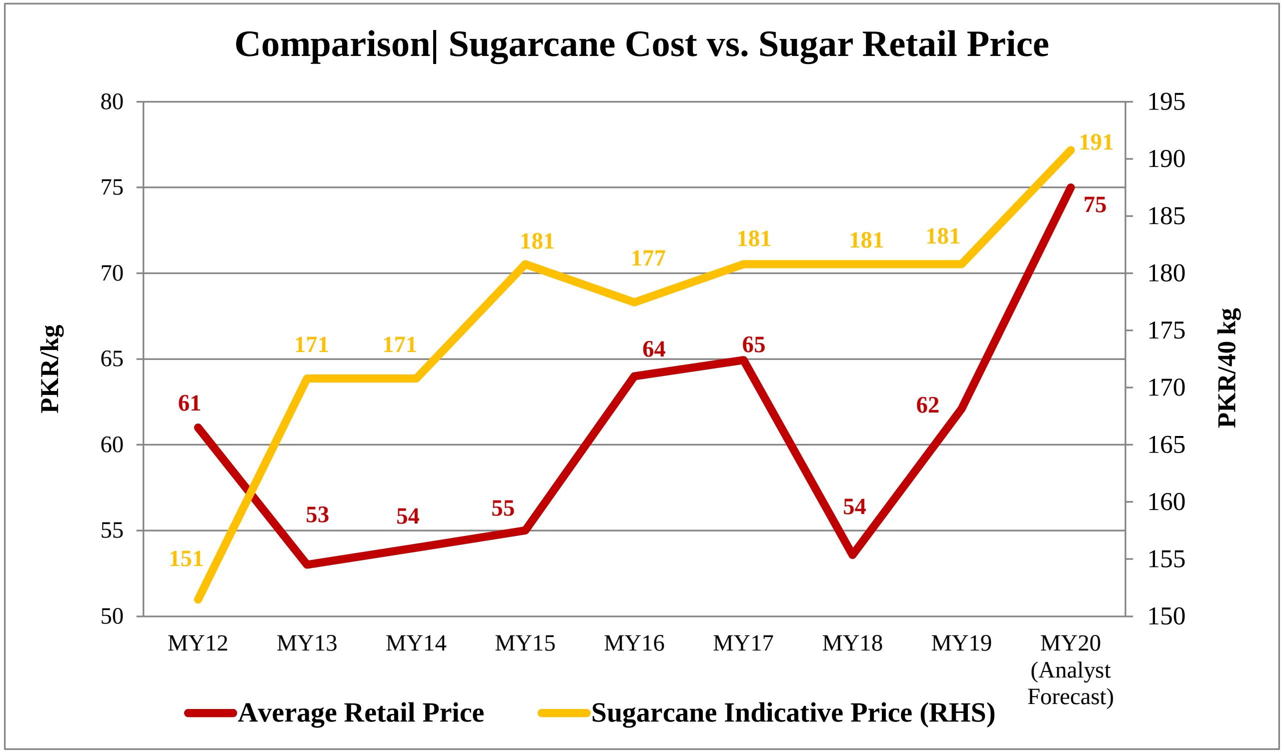
Sugarcane Price | Notified by Government



- In MY16 Cane Commissioner fixed the price at PKR 172 for Sindh, lower than Punjab, and was successfully challenged by growers
- Announced cane prices were maintained in MY19
- In MY20, cane price may surge upto PKR 200 per 40 kg

Source: Pakistan Sugar Mills Association Annual Report

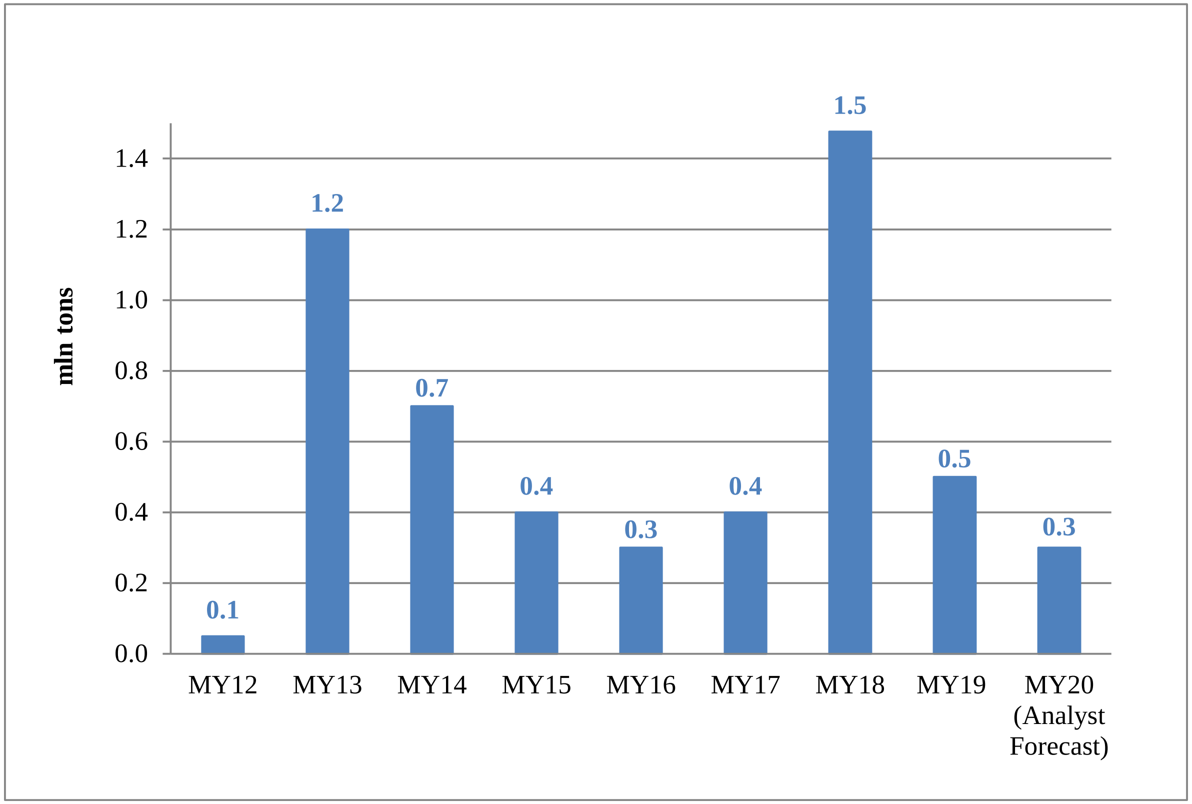
Sugar | Cost-Price Comparison



- Sugarcane support price (input) remain consistent despite dip in sugar price (output)
- Selling price of sugar determined by market dynamics stood at an average of PKR 54/kg during MY18.
- The prices have rallied up to PKR 75/kg from MY19 (Aug)
- In MY20, prices are expected to remain high due to demand glut

Source: Pakistan Sugar Mills Association Annual Report

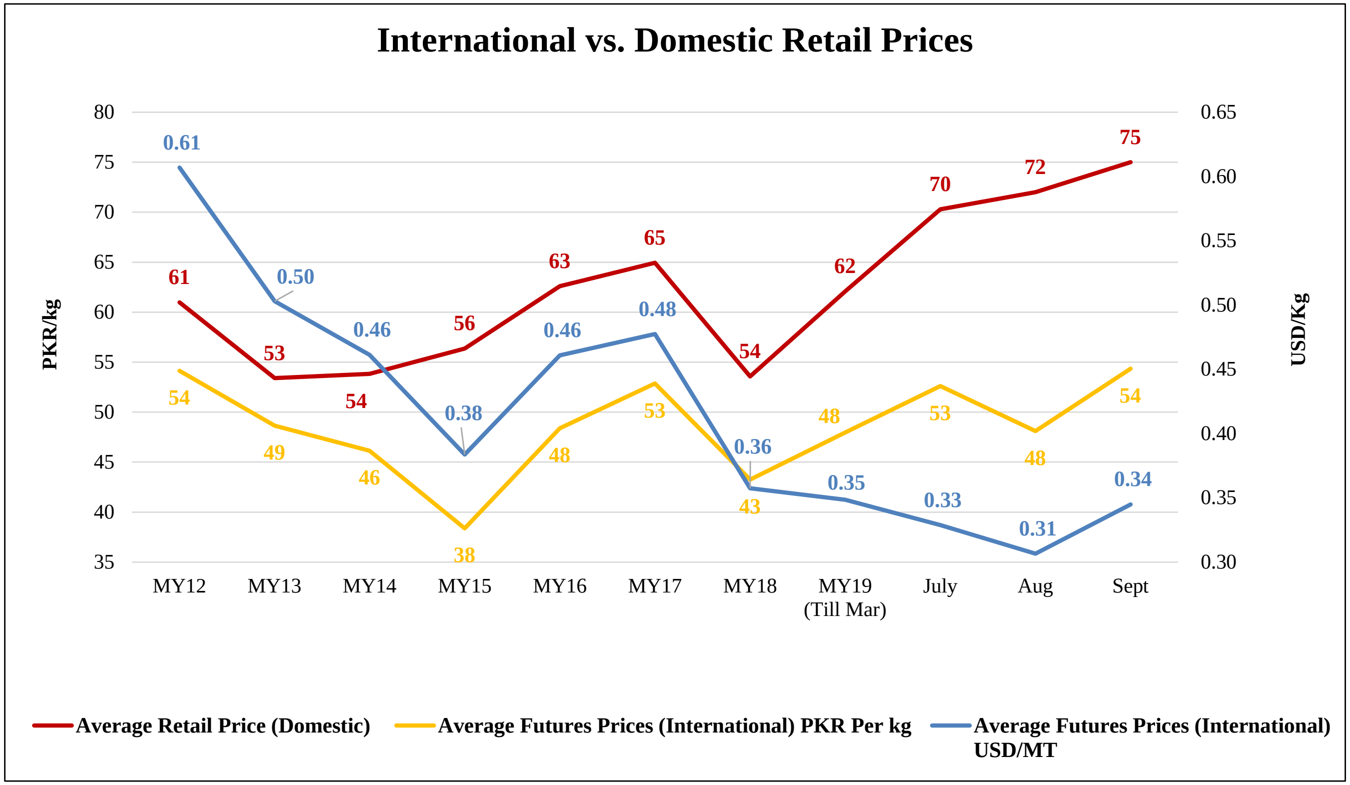
Sugar Industry | Exports



- In MY18: sugar export surged due to raised export quota ~ 2mln MT coupled with export subsidy of Rs 10.7/kg from the federal government and an additional subsidy of Rs 9.3/kg from the Sindh government
- In MY19, export quota was revised to 1.1mln MT with no subsidy was announced at federal level
- Punjab announced a provincial subsidy of Rs 5.3/kg
- Sugar exports are expected to remain low due low prices in international market

Source: Pakistan Bureau of Statistics, USDA Foreign Agricultural Services GAIN Report

Sugar | Price Comparison



- Depressed international sugar prices due to excess sugar supply emanating from India and Thailand
- Domestic Sugar prices are higher owing to lower yields, high recovery rates and high cost of production
- Increase in Domestic prices emanates from lower sugar production during MY19

Source: Pakistan Sugar Mills Association Annual Report, Pakistan Bureau of Statistics, International Sugar Organization

Market Share | Top Ten Industry Players

Production Share of Top Players - MY18					
Sr. #	Sugar Mill	Region	Production (MT)	Recovery Rate	Market Share
1	J.D.W (Combined)	Punjab & Sindh	888,711	10.5%	14%
2	HAMZA	Punjab	382,495	10.4%	6%
3	TANDLIANWALA (Combined)	Punjab	220,698	8.9%	3%
4	DEHARKI	Sindh	205,788	10.9%	3%
5	SHEIKHOO	KPK	195,006	9.8%	3%
6	CHASMA (Combined)	KPK	193,323	9.4%	3%
7	ETIHAD	Punjab	170,855	10.7%	3%
8	LAYYAH	Punjab	168,596	9.8%	3%
9	TWO STAR	Punjab	162,514	9.6%	2%
10	R.Y.K	Punjab	162,398	10.7%	2%
11	INDUS	Punjab	148,530	10.9%	2%
12	FATIMA	Punjab	146,355	10.0%	2%
13	HUNZA (Combined)	Punjab	144,739	8.7%	2%
14	MEHRAN	Sindh	120,200	11.5%	2%
15	ALLIANCE	Sindh	115,930	9.8%	2%
16	AL-NOOR	Sindh	110,810	10.0%	2%
17	AL-MOIZ (Combined)	Punjab & KPK	210,907	10.1%	3%
18	HABIB	Sindh	106,005	10.3%	2%
19	FARAN	Sindh	105,633	10.7%	2%
20	Others		2,620,620		40%
	Total		**6,580,113**		

Source: Pakistan Sugar Mills Association Annual Report

Regulatory Structure & Risk Analysis

	Previous	New
Sales Tax Sugar - Registered	8% (fixed @PKR 60/kg)	17% MRP
Additional Sales Tax - Unregistered	3%	-
Regulatory duty on imports	40%	
No sales tax on sugarcane as it's an agriculture		

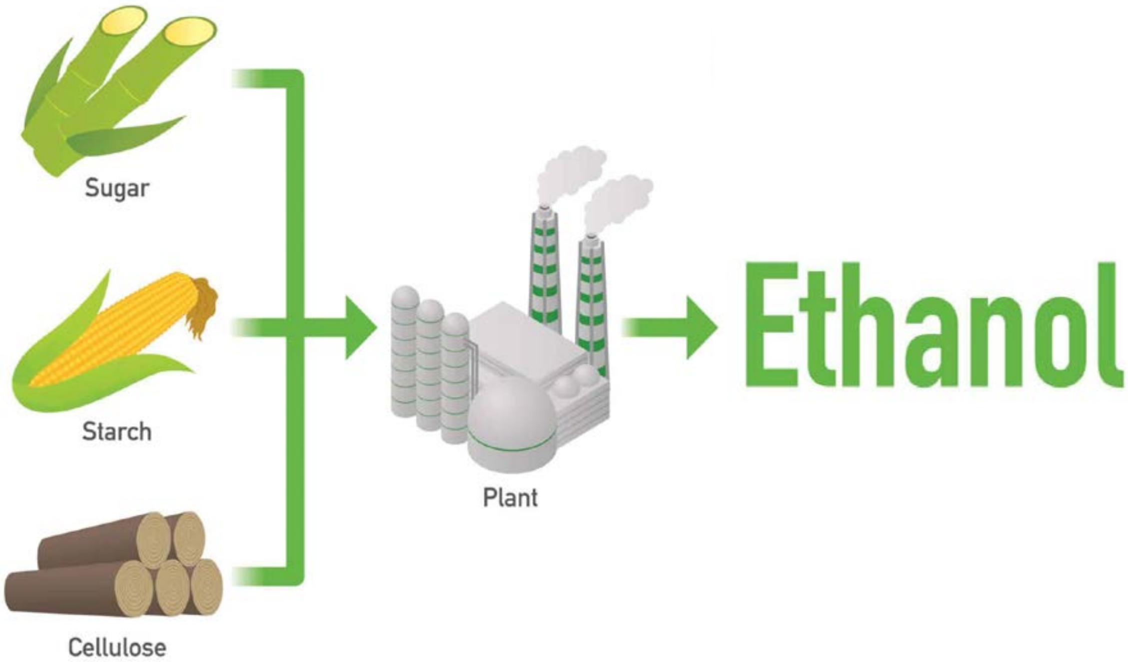
- – **Fluctuating gross margins due to cost-price disparity:** *Government notified Sugarcane prices leads to high cost of production for the millers. While, the retail price for sugar rely on supply - demand dynamics.*
- – **Unfeasible export avenues:** *Difficulty in selling sugar in the international market at better prices despite devaluation of PKR in years of excess production.*
- + **On import of sugar:** *Imposing 40% regulatory duty in Jun-15 (Previously: 20%).*
- + **Diversification through revenues from co-generation projects:** *(i) molasses is also used in the production of pharmaceutical and fuel grade ethanol while (ii) bagasse is used in electricity generation and paper/chip board*


Ethanol

Supply Chain | Where do they fall?

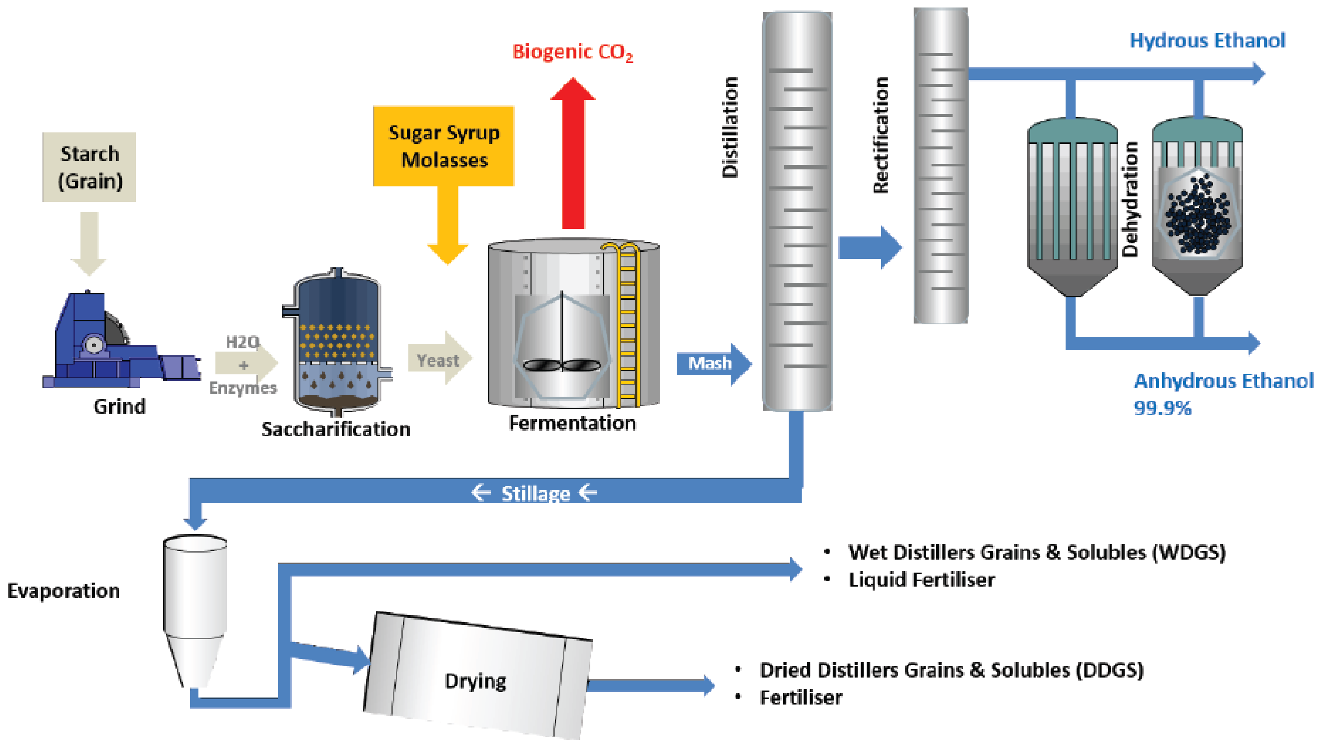
Farmer → Sugar Mill → Molasses - Supplier/ Distributor → Industrial Consumer – Ethanol Plant → Local Consumer and/or Export

Ethanol | Key Sources



- 3 Key Sources
    - *Sugar – sugarcane, beet root, sweet sorghum*
    - *Starch – corn and wheat*
    - *Cellulose – wood, switch grass and corn stover*

Ethanol | Process Flow



- Dry milling : 90% of ethanol produced
- Process
  - From starch (grains): pre-processing to be transformed into glucose and its fermentation
  - From sugarcane: simply dissolved in water

Source: Bioenergy Australia

Ethanol | Global Production

Golbal Ethanol Production (mln Liters)				
Region	MY18	MY17	MY16	MY15
United States	60,797	60,324	58,344	56,050
Brazil	29,980	25,968	25,589	27,255
European Union	5,413	5,300	5,212	5,250
China	3,975	3,255	3,199	3,078
Canada	1,817	1,779	1,650	1,650
Thailand	1,476	1,401	1,219	1,264
India	1,514	795	1,041	738
Argentina	1,098	1,098	999	799
Rest of World	2,078	1,567	1,855	1,480
Total	**108,148**	**101,487**	**99,108**	**97,564**

- United States
  - *Source of production*: 90% - corn, 10% - wheat/sorghum
  - *Consumption*: 919,000 barrels per day
- Brazil
  - *Source of production*: sugarcane
  - *Consumption*: 460,000 barrels per day

Source: Renewable Fuels Association

Ethanol | Local Industry Players

	Players	Location	Listing	Activity	Capacity (Liters/day)
1	Madinah Group of Indutries	Punjab	Unlisted	Sugar & Ethanol	375,000
2	Shakarganj Mills Limited (Non-operational since 2015)	Punjab	Listed	Sugar & Ethanol	350,000
3	Tandlianwala Sugar Mills Limited	Punjab	Listed	Sugar & Ethanol	255,000
4	Shahmurad Sugar Mills Limited	Sindh	Listed	Sugar & Ethanol	250,000
5	Unicol Limited	Sindh	Unlisted	Ethanol	200,000
6	Premier Industrail Chemical Manufacturing (Pvt) Ltd	Punjab	Unlisted	Ethanol	175,000
7	Al-Abbas Sugar Mills Limited	Sindh	Listed	Sugar & Ethanol	172,500
8	Habib Sugar Mills Limited	Sindh	Listed	Sugar & Ethanol	142,500
9	Colony Sugar Mills Limited	Punjab	Listed	Sugar & Ethanol	135,000
10	Noon Sugar Mills Limited	Punjab	Listed	Sugar & Ethanol	130,000
11	Dewan Sugar Mills Limited	Sindh	Listed	Sugar & Ethanol	125,000
12	Abdullah Sugar Mills Limited	Punjab	Unlisted	Sugar & Ethanol	125,000
13	Hunza Sugar Mills (Pvt) Ltd	Punjab	Unlisted	Sugar & Ethanol	125,000
14	Chasma Sugar Mills Limited	Punjab	Listed	Sugar & Ethanol	125,000
15	United Ethanol Industries Limited	Punjab	Unlisted	Ethanol	120,000
16	Matol (Pvt.) Ltd	Sindh	Unlisted	Sugar & Ethanol	100,000
17	Crystalline Chemical Industries Pvt Limited	Punjab	Unlisted	Ethanol	100,000
18	Pak Ethanol (Pvt) Ltd	Sindh	Unlisted	Ethanol	70,000
19	Khazana Sugar Mills (Pvt) Limited	KPK	Unlisted	Sugar & Ethanol	-
	Total				**3,075,000**

Source: Company websites and annual accounts

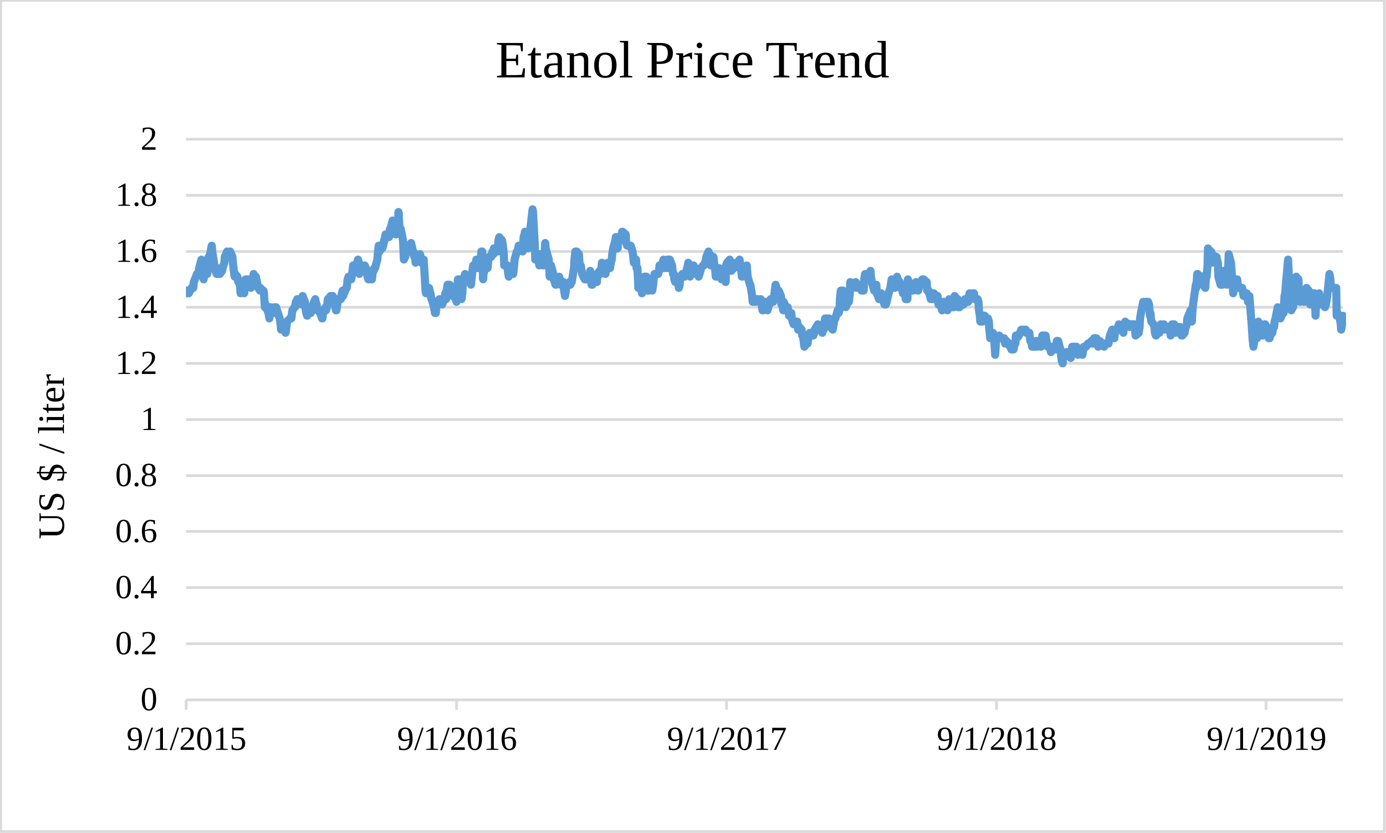
Ethanol | Local Production

- Source : Sugarcane
- Type : *Food grade ethanol* - Extra Neutral Alcohol (ENA) with a strength >96.4%

Industry Statistics				
Description	**MY18**	**MY17**	**MY16**	**MY15**
Sugarcane Crushed (mln MT)	65.6	71.0	50.0	50.8
Sugarcane Conversion to Molasses	4.5%	4.3%	4.5%	4.4%
Molasses Production (mln MT)	3.0	3.1	2.2	2.2
Molasses Exported (mln MT)	*0.2*	*0.1*	*0.1*	*0.1*
Molasses Available for Production (mln MT)	2.8	3.0	2.2	2.2
Ethanol Produced (mln MT)	0.8	0.8	0.6	0.6
Ethanol Exported (mln MT)	0.6	0.3	0.3	0.3

Source: SBP, PBS & PSMA

Ethanol | Price Trend



Source: Market Insider

Risk Analysis

- **Reduced Production:** *Low sugarcane yield resulting in low output produced in form of molasses resulting in price surge. Prices are expected to remain high in MY20.*

- **Impact on Price - Molasses:**
  - ***In local market*** *- prices have almost doubled in MY19 in comparison to MY18. Price may remain high in MY20.*
  - ***In export market*** *– rupee depreciation has made the export front favourable for the industry.*

- **Pressure on Margins:** *High input cost – molasses - exerts pressure on industry's margins, however, remain high.*

- **Impact on Price - Ethanol:**
  - ***In local market*** *- price will remain high in MY20 due low availability of input and high input cost.*
  - ***In export market*** *– rupee depreciation has made the export front favourable for the industry, however, price remain a factor of international demand/supply dynamics.*

Analyst	Ayesha Malik ayesha.malik@pacra.com
Contact Number: + 92 42 3586 9504	

DISCLAIMER