Performance Review of Commodity

PADDY (BASMATI) – PUSA 1121

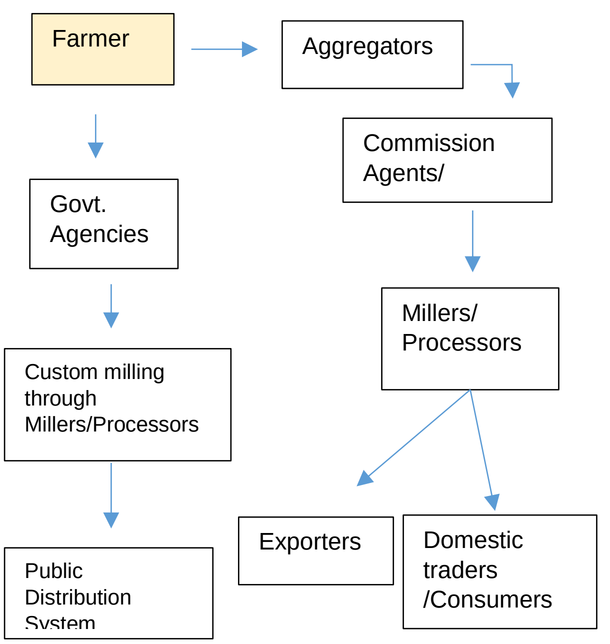
1. Background

a. Brief about the commodity such as sample picture, lifecycle and various varieties/grade of the commodity found in India

The word Basmati is derived from the Hindi word 'Bas' means aroma and 'mati' means 'full of'. The Paddy (Basmati) is one of the important Paddy crop in India and believed to be originated from India. *Pusa Basmati 1121 (*PB-1121) is the largest cultivated and unique variety. It is a landmark Basmati rice variety. It possesses extra-long slender milled grains and pleasant aroma. In India, Basmati rice is grown where precise climatic conditions, soil fertility, irrigation water and temperature exist. This occurs mainly in Indo-Gangetic plains, particularly, north-western region. Basmati is mainly a Kharif Crop. India is the largest producer, consumer and exporter of Pusa Basmati -1121. Broadly, India’s share in global rice production is near 20%. India accounts for around 70% of Basmati rice production while balance about 30% production is from Pakistan. As per market estimates, Basmati Rice Production is nearly 5% of the total Rice production in India. In terms of Basmati paddy, the major variety produced in India is PUSA 1121 which is more than 65 percent of the total Basmati production.

Crop Cycle - Paddy (India)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kharif Paddy												
Rabi Paddy												
Summer Paddy												
	Sowing			Harvesting								

Value Chain of the Commodity	Major Varieties /Grade



Major Varieties

PB 1121, PB 1509, PB 1718

NCDEX: Important Quality Parameters

Moisture	Basis 13%, Max 14%
Foreign Matter	1% max
Damaged, Discolored, Weevil led & Broken Grains (%)	4% max
Immature	Max 4%
Green Grains	Max 5%
Admixture of lower class	Max 5%
Empty shell	Max 2%
Hulling recovery	Min 72%
Average Kernel length of Hulled Rice before cooking	Min 8.30 mm

Paddy should dry, clean, uniform in colour and size, free from moulds, live weevils, obnoxious smell, Argemone mexicana, Lathyrus sativus (Khesari) and admixture of deleterious substances

b. Commodity fundamentals and balance sheet as per the following format (to be prepared based on publicly available information on best effort basis):

Table - Fundamentals & Balance sheet (quantity)

The published data available is for Rice only. As per rough estimates, Paddy to Rice conversion percentage remains around 67% which means that after milling of 100 kg of Paddy around 67 kg of Rice is obtained.

All the figures shown in given Tables are for Rice.

(In Lakh Tonnes)

Global Scenario	Previous Year (2018-19)	Current Year (2019-20) (P)
Opening Stocks	1,625.31	1,757.11
Production	4,990.70	4,960.81
Imports	435.73	412.14
Total Supply	7,051.74	7,130.06
Exports	436.92	421.68
Domestic Consumption	4,857.71	4,892.35
Ending Stocks	1,757.11	1,816.03

Source: USDA (April 2020); P= Provisional; The above figures are inclusive of all varieties of Rice. Variety wise production figures are not available.

(In Lakh Tonnes)

Indian Scenario	Previous FY (2018-19)	Current FY (2019-20) (P)
Beginning Stocks	226.00	295.00
Production	1,164.80	1,180.00
Imports	0	0
Total Supply	1,390.80	1,475.00
Exports	104.20	102.00
Domestic Consumption	991.60	1,023.00
Ending Stocks	295.00	350.00

Source: USDA (April 2020); P= Provisional; The above figures are inclusive of all varieties of Rice. Variety wise production figures are not available. There is no import of Basmati Rice in India.

(In Lakh Tonnes)

Rank	Top 10 Major Producing Countries			Top 10 Major Consuming Countries		
	Country	Previous FY	Current FY	Country	Previous FY	Current FY
1	China	1484.90	1467.30	China	1,427.20	1,429.30
2	India	1164.80	1180.00	India	991.60	1,023.00
3	Indonesia	367.00	365.00	Indonesia	381.00	378.00
4	Bangladesh	349.09	358.50	Bangladesh	354.00	358.00
5	Vietnam	273.44	273.69	Vietnam	212.00	215.00
6	Thailand	203.40	180.00	Philippines	141.00	144.00
7	Burma	132.00	127.00	Thailand	115.00	115.00
8	Philippines	117.32	114.00	Burma	102.50	104.50
9	Japan	76.57	76.11	Japan	84.00	83.00
10	Pakistan	73.00	75.00	Brazil	74.50	74.50
11	Others	749.18	744.21	Others	974.91	968.05
	World Total	4990.70	4960.81	World Total	4,857.71	4,892.35

Source: USDA (April 2020); The above figures are inclusive of all varieties of Rice. Variety wise production figures are not available; Previous FY is 2018-19 and Current FY is 2019-20; Countries are arranged in descending order based on the figure in Current FY; The Basmati variety is produced in India and Pakistan only;

(In Lakh Tonnes)

Rank	Top 10 Major Exporting Countries			Top 10 Major Importing Countries		
	Country	Previous FY	Current FY	Country	Previous FY	Current FY
1	India	104.20	102.00	Philippines	36.00	26.00
2	Thailand	75.62	75.00	China	30.00	24.00
3	Vietnam	65.81	63.00	European Union	21.50	22.00
4	Pakistan	45.00	44.00	Cote d'Ivoire	13.50	13.50
5	China	27.70	32.00	Iraq	12.00	12.00
6	United States	29.71	31.43	Nigeria	19.00	12.00
7	Burma	27.00	22.00	Iran	12.00	11.00
8	Cambodia	13.50	9.00	Saudi Arabia	14.25	11.00
9	Uruguay	8.00	7.75	United States	9.20	10.16
10	Paraguay	6.89	6.00	Indonesia	6.00	10.00
11	Others	33.49	29.50	Others	262.28	260.48
	World Total	436.92	421.68	World Total	435.73	412.14

Source: USDA (April 2020); The above figures are inclusive of all varieties of Rice. Variety wise production figures are not available; Previous FY is 2018-19 and Current FY is 2019-20. Countries are arranged in descending order based on the figure in Current FY;

Major State-wise Production

(In Lakh Tonnes)

Top 10 Major producing states in India			
Rank	States	Previous FY*	Current FY*
1	West Bengal	149.67	160.51
2	Uttar Pradesh	132.74	155.36
3	Punjab	133.82	128.22
4	Andhra Pradesh	81.66	82.47
5	Odisha	65.51	73.10
6	Telangana	33.16	67.03
7	Chhattisgarh	49.31	65.27
8	Tamil Nadu	66.39	64.55
9	Bihar	80.93	60.43
10	Assam	52.84	51.35
	Others	281.57	256.51
	All India	1127.60	1164.80

Source: Ministry of Agriculture (August 2019), *Latest available data for state wise production is available only till 2018-19. Thus, in the above Table Previous FY corresponds to 2017-18 and Current FY corresponds to 2018-19; States are arranged in descending order based on the figure in Current FY.

c. Major changes in the polices governing trade in the spot markets of the commodity (FY 2019-20)

<table>
<tr><td>Date</td><td colspan="4">Major Policies governing trade and Changes</td></tr>
<tr><td rowspan="4">3-Jul-19</td><td colspan="4">MSP announced for Kharif Crops</td></tr>
<tr><td></td><td>2018-19</td><td>2019-20</td><td>Y-o-Y Change</td></tr>
<tr><td>Paddy Common Grade</td><td>1750 (Rs./Qtl.)</td><td>1815 (Rs./Qtl.)</td><td>3.7%</td></tr>
<tr><td>Paddy A Grade</td><td>1770 (Rs./Qtl.)</td><td>1835 (Rs./Qtl.)</td><td>3.7%</td></tr>
<tr><td>18-Sep-19</td><td colspan="4">Saudi Arabia from Sept 01, 2019 implemented a new procedure that require basmati shipments to have a certificate of conformity from Jan 01, 2020. However, those exporting before 31 Dec 2019, will have to produce an undertaking that they will furnish the certificate once the relaxation ends on Dec 31. It also decided to source basmati rice from companies that have adopted food safety management systems based on standards of International Organization for Standardization 22000, or Hazard Analysis and Critical Control Point.</td></tr>
<tr><td>09-Jan-20</td><td colspan="4">Indian exporters of basmati and non-basmati rice will have to furnish a certificate of inspection for shipments to Iceland, Liechtenstein, Norway, and Switzerland with immediate effect, the Directorate General of Foreign Trade said in a notification. Exporters of basmati</td></tr>
</table>

Date	Major Policies governing trade and Changes
	and non-basmati rice to other countries in the European Union will require a certificate of inspection from Jul 1, 2020. The European Union had imposed stricter pesticide norms for basmati imports from Jan 1, 2018. The EU, one of the high-value buyers of Indian basmati, had reduced the permissible limit of tricyclazole residue in imported rice to 0.01 parts per million from 1 part per million earlier. EU annually imports about 350,000 tonnes basmati rice.

d. Geo political issues in the commodity and its impact on Indian scenario (FY 2019-20)

Date	Event	Key Details	Key Implications/Impact
20-Jan-20	China declared an emergency about coronavirus attack.	Outbreak of novel coronavirus (2019-nCoV) that was first reported from Wuhan, China, on 31 December 2019.	Expectation of decline in international trade leading to weakening of the market sentiments.
11-Mar-20	COVID-19	WHO declared COVID 19 as a pandemic	Economic Slow Down
19-Mar-20 and thereafter	Lockdown in Indian States	Indian PM urged countrymen to observe Janta Curfew on 22nd March. It is followed by nation-wide lock-down for 21 days effective from Mar 25.	Physical Market activities started getting adversely impacted due to movement restrictions and closures of physical markets.

2. Trading related parameter

a. Monthly and Annual traded volume (quantity in appropriate units)

Months	Traded volume (MT)
Jul	590
Aug	220
Sep	150
Yearly traded volume	960

b. Annual traded volume as proportion of total deliverable supply (quantity in appropriate units)

Traded volume (MT)	Deliverable supply(MT)	Proportion
960	5,024,000	0.02%

c. Annual traded volume as proportion of total annual production (quantity in appropriate units)

Traded volume (MT)	Production(MT)	Proportion
960	5,024,000	0.02%

d. Annual average Open interest as proportion of total production

AvgOpen Int(MT)	Production(MT)	Proportion
15	5,024,000	0.00%

e. Annual average Open interest as proportion of total deliverable supply

AvgOpen Int(MT)	Deliverable supply(MT)	Proportion
15	5,024,000	0.00%

f. Monthly and Annual value of trade (in Rs. Crores)

Month	Traded Value(in Cr.)
Jul	2
Aug	1
Sep	1
Yearly traded value	4

g. Monthly and Annual quantity of delivery (in appropriate units)

Nil

h. Monthly and Annual value of delivery (in Rs. Crores)

Nil

i. Monthly and Annual Average Open Interest (OI) (in appropriate units)

Month	Avg Open Int (MT)
Jul	80
Aug	48
Sep	42
Yearly Average Open Interest	57

j. Annual average volume to open interest ratio

Average of traded volume (MT)	Average of Open Interest (MT)	traded to Open interest
5	57	9.40%

k. Total number of unique members and clients who have traded during the financial year

Member Count	Client Count
19	24

l. Ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest (Annual average as well as maximum daily value)

Date	VCP/Hedger	Proprietary traders	Others
12-Jul-2019	8.33%	0.00%	91.67%

m. Number of unique FPOs / farmers and VCPs/hedgers who traded in the financial year

Nil

n. Algorithmic trading as percentage of total trading

Nil

o. Delivery defaults

Number of Instances	1
Quantity involved (MT)	20
Value Involved (Cr)	0.08

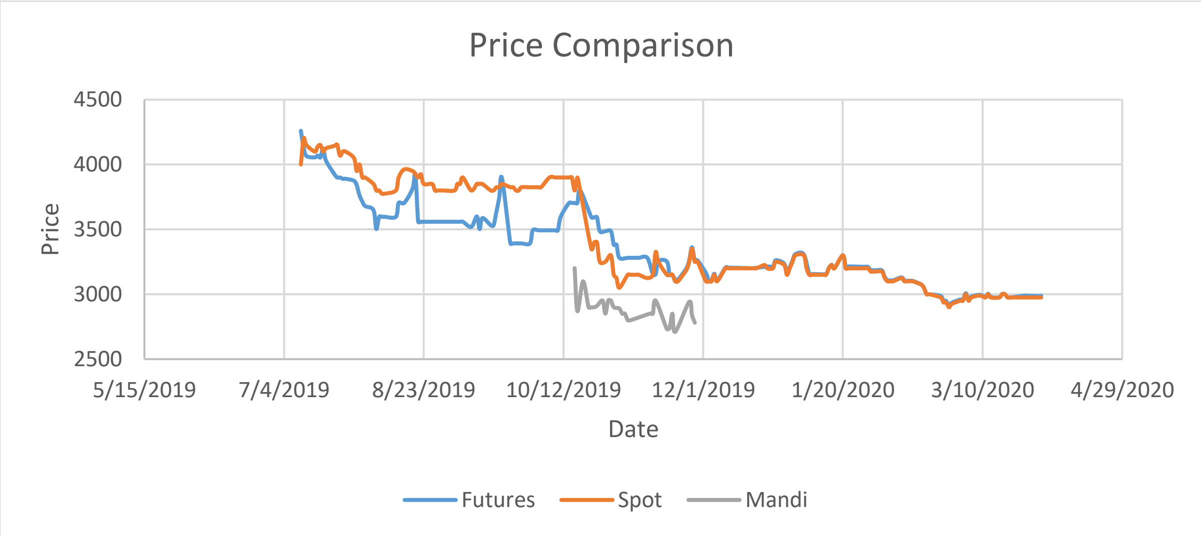
3. Price Movement

a. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).
Not applicable

b. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price).
Not applicable

c. Correlation between exchange futures & domestic spot prices along with ratio of standard deviation.

Correlation	0.42185
Standard Deviation	1.15724



d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).
Not applicable

e. Comparison of Exchange polled price and mandi price (in case of agricultural commodities) / other relevant price (in case non-agricultural commodities) at basis centre.
Not available

f. Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility.

	Futures		Spot	
Volatility	Month	Value	Month	Value
Max	Sep	0.035841	Oct	0.033199
Min	Feb	0.007508	Feb	0.006599

g. Number of times the futures contract was in backwardation/contango by more than 4% for the near month contract in the period under review

Contango	0
Backwardation	21

4. Other Parameters

a. Qualitative and quantitative measure for Hedge effectiveness ratio and basis Risk (Volatility of Basis) along with disclosure of methodology adopted for such calculations.

Basis Volatility – 4.4185

Note: Sufficient price points are not available to find the hedge efficiency ratio for Paddy

b. Details about major physical markets of the commodity vis-à-vis market reach in terms of availability of delivery centers (information to be provided state-wise and UT-wise).

State	Major Physical Markets	NCDEX basis and Delivery Centers
Rajasthan	Kota	Basis Center
	Bundi	
	Baran	
	Pilibanga	
	Hanumangarh	
Punjab	Amritsar	
	Tarantaran	
	Gurdaspur	
	Patiala	
	Sangrur	
	Ferozepur	
	Ludhiana	
	Bhatinda	
	Jalandhar	
Haryana	Karnal	
	Sonipat	
	Kaithal	
	Jind	
	Hisar	
	Bhiwani	

c. Details about major physical markets of the commodity and average Open Interest for each month generated from those regions.

Note – The OI for each month is classified based on the Member level. The Average OI is on gross level (Long OI + Short OI), in MT

State	Punjab	Rajasthan
Jul-19	3	44

Aug-19	5	52
Sep-19	2	31

d. Details, such as number and target audience, of stakeholders' awareness programs carried out by the exchange.

Sr. No.	Program / Event / Engagement	Location	Number of Stakeholders
1	Paddy Pre Launch program	Karnal	47
2	Investor Awareness program	Karnal	12
3	Investor Education Program	Kurukshetra	22

e. **Steps taken / to be undertaken to improve hedging effectiveness of the contracts as well as to improve the performance of illiquid contracts**.

1. Meeting and awareness programs in Karnal and Kurukshetra to educate the value chain participants on the concept of hedging and futures price risk management
2. Meeting Paddy value chain participants from Kota, Bundi and Baran region and having one to one meeting to discuss of paddy Basmati 1121 price risk management and hedging.
3. Organizing awareness programs in Kota, Baran and Bundi to increase hedging participation from the value chain participants