



Rice

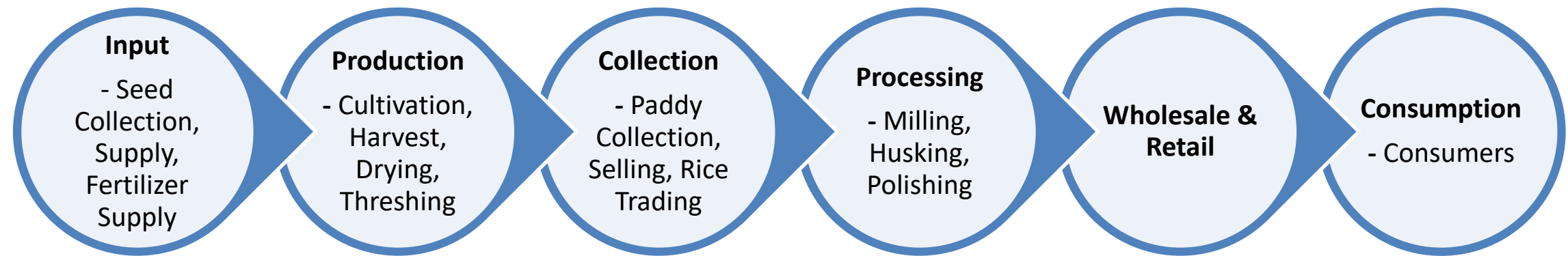
Sector Study

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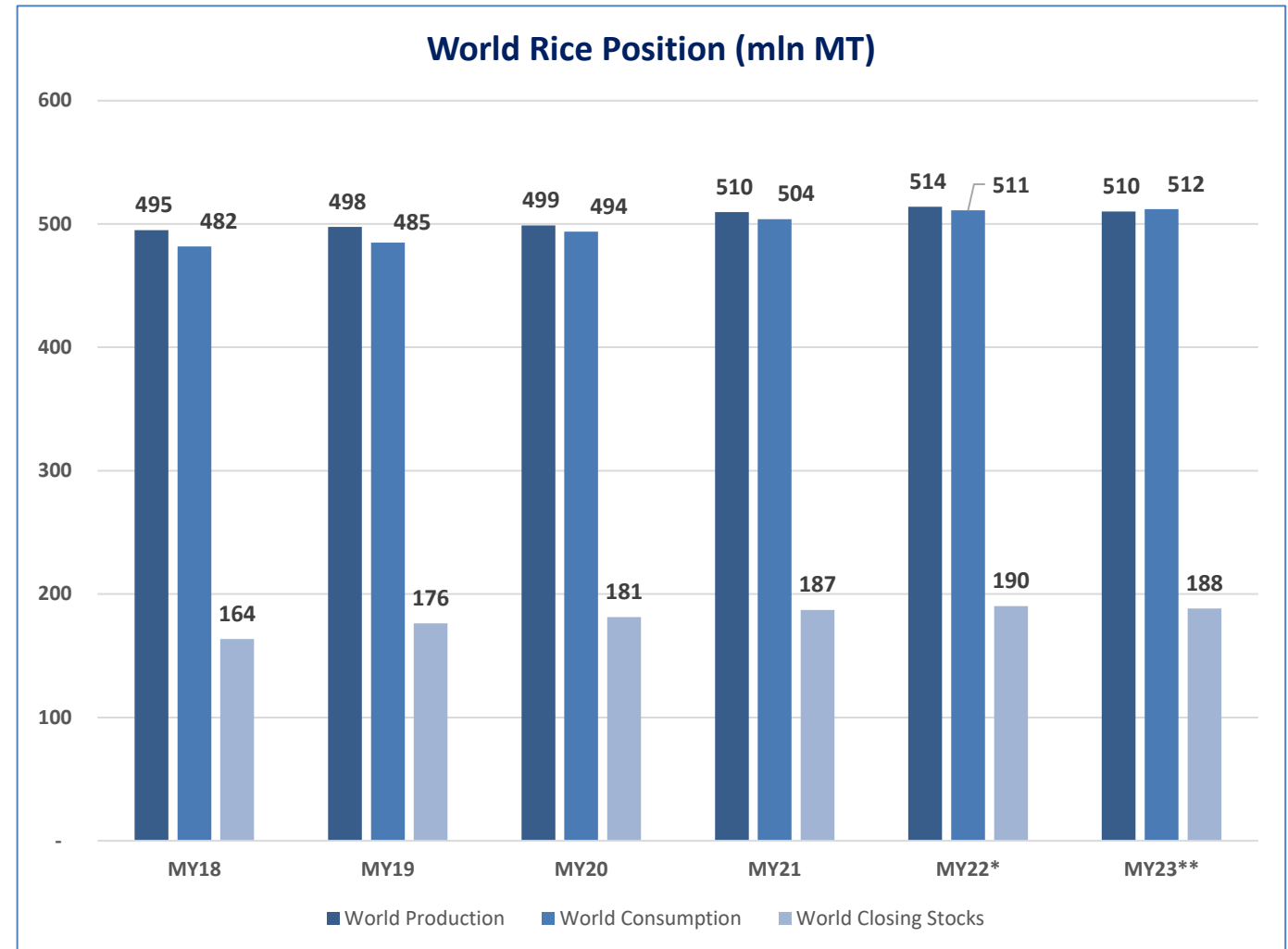
Overview

- Rice is the primary staple food for more than half of the world’s population. Globally, it can be classified into two broad categories – Indica (mostly in Southeast and South Asia) and Aromatic (primarily in Vietnam, Cambodia, Thailand, India and Pakistan), which together constitute 90-94% of global trade.
- Almost ~514mln MT of milled rice is produced annually at a global level. Rice is mostly grown and consumed in the Asian Region.
- India is the largest exporter, accounting for nearly ~40% of rice trade. The country witnessed a growth of ~45% in its exports in MY21 to more than ~21mln MT, owing to improved port handling infrastructure and development of value chain. However, it is expected to decline in MY22, due to fall in paddy acreage amidst rainfall deficit in key producing areas.
- On the global import side, Sub-Saharan Africa is the largest rice importing region, slightly exceeding total imports by all of Asia, and accounting for more than ~31% of global imports.
- Following is a brief depiction of rice supply chain -



Global | World Rice Position

- World Rice Production:** Global rice production grew by ~0.85% YoY during MY22; recording at ~514mln MT. However, the production is expected to decline by ~0.8% to ~510mln MT in FY23. This loss is primarily due to the drop in yield and harvested area in India combined with crop damage caused by floods in Pakistan; both have pivotal role in rice production globally.
- World Rice Consumption:** Global rice consumption on the other hand increased by ~1.4% YoY reaching ~511mln MT in MY22. It is expected to grow marginally by ~0.18% in MY23.
- World Ending Stocks:** Average world stock is the expected amount of rice leftover after consumption. With India and China being the leading countries with highest amount of ending stocks, the world ending stocks for MY22 stood at ~190mln MT; up by 1.6% YoY. After a continuous increase for last 6 years, the ending rice stocks are expected to declined in MY23; rightfully so given the overall decline expected in production and rise in consumption.



*Figures for MY22 are estimated.

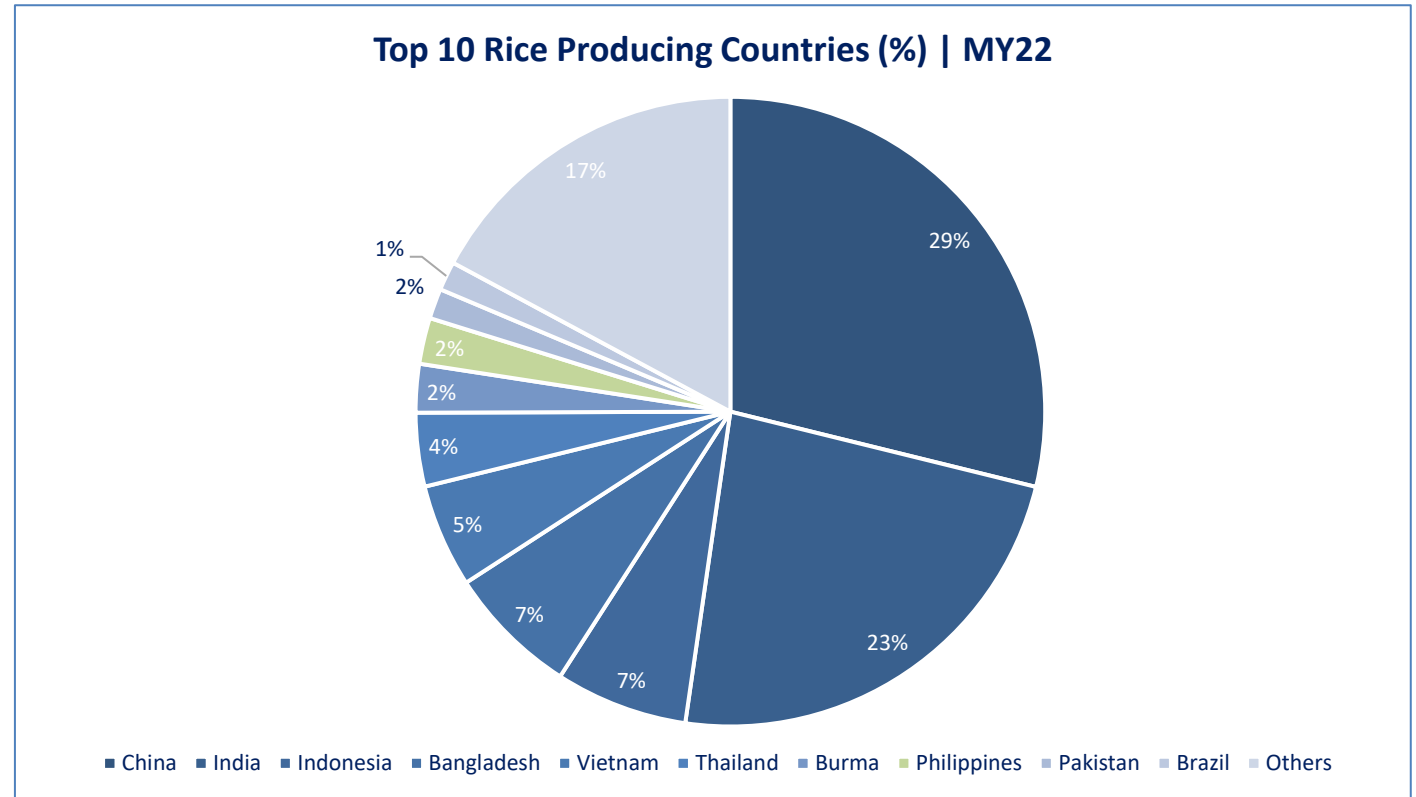
**Figures for MY23 are predicted.

MY refers to the Marketing Year, which is different for each country.

Global | Production

- Global rice production grew by ~0.85% YoY during MY22 making its five-year CAGR equivalent to ~0.8%.
- The highest contribution to rice production comes from China (~148mln MT), followed by India (~121mln MT), while Pakistan (~8mln MT) ranks 9th in the world. Expected lower yield, reduced harvested area in India and damages caused by recent floods in Pakistan are predicted to result in decline of global rice production owing to the magnitude of contribution by both countries.

Top 10 Rice Producers (mln MT) MY22	
China	148
India	121
Indonesia	35
Bangladesh	35
Vietnam	27
Thailand	19
Burma	13
Philippines	12
Pakistan	8
Brazil	8
Others	88
Total	514

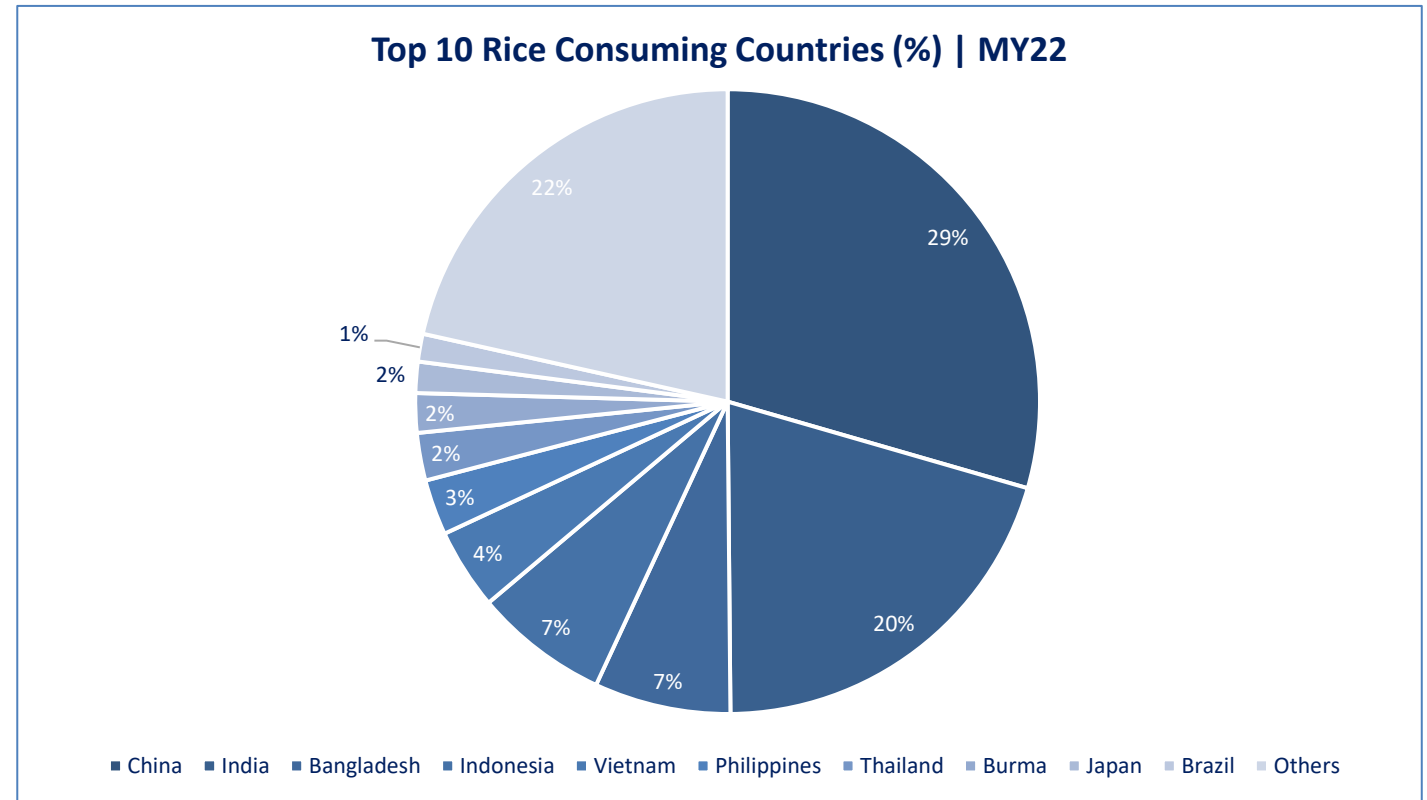


*Figures for MY22 are estimated.
 MY refers to the Marketing Year, which is different for each country. For most, it runs Oct-Sep, including China, India and Pakistan.

Global | Consumption

- Global rice consumption grew by ~1.4% YoY during MY22 making its CAGR equivalent to ~1.2% for the past five years. Global rice consumption stood at ~511mln MT for MY22 and is expected to rise marginally by ~0.18% in MY23.
- China (~151mln MT) ranks 1st in terms of consumption, followed by India (~104mln MT), while Pakistan with ~8mln MT of annual consumption (domestic consumption of around 4mln MT) ranks 9th in the world.

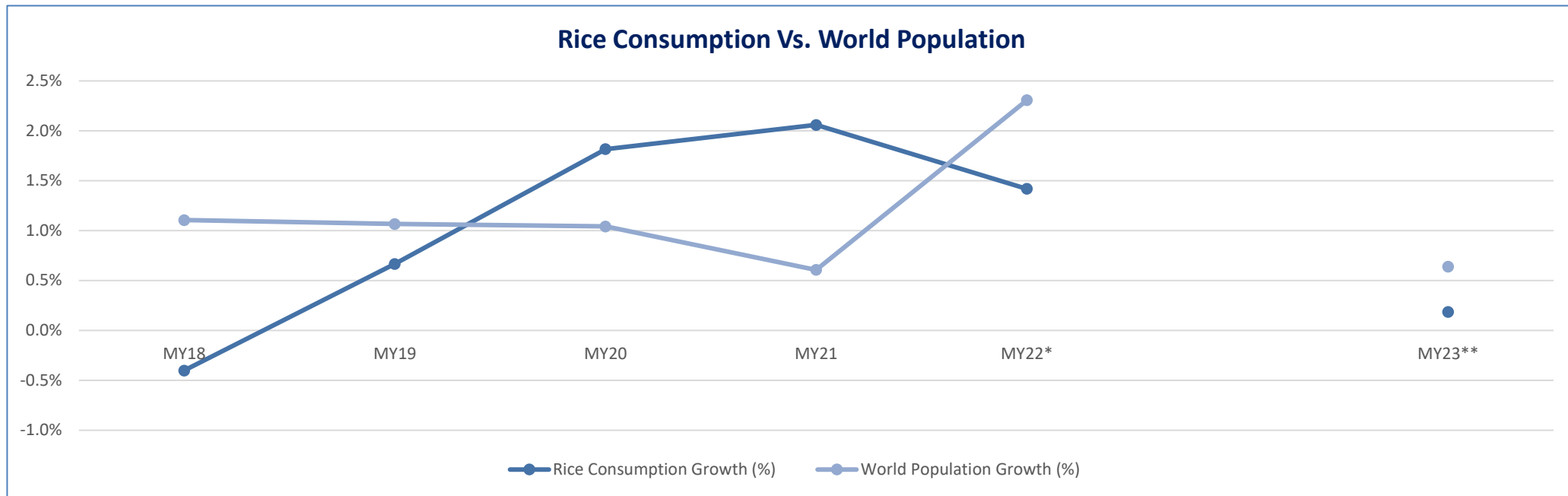
Top 10 Rice Consumers MY22 (mln MT)	
China	151
India	104
Bangladesh	36
Indonesia	36
Vietnam	21
Philippines	15
Thailand	13
Burma	10
Japan	8
Brazil	7
Others	110
Total	511



*Figures for MY22 are estimated.
 MY refers to the Marketing Year, which is different for each country. For most, it runs Oct-Sep, including China, India and Pakistan.

Global | Demand

- Based on the numbers, growth in rice consumption has been relatively more volatile than the world population growth. For a tenure of five years (MY18-MY22), the CAGR for rice consumption stands at ~1.24% while that for population growth is ~1.04%.
- Broadly speaking, the volatility in consumption patterns of rice can be defined by either fluctuations in crop output and yield in a particular season or availability of substitutional food products during the period.
- The global population growth rate is expected to be ~2.3% in CY22, the highest in the past five years. However, it is also projected to decline to 0.6% in MY23. Simultaneously, rice consumption rate is also expected to decline in MY23 to ~1.8%.



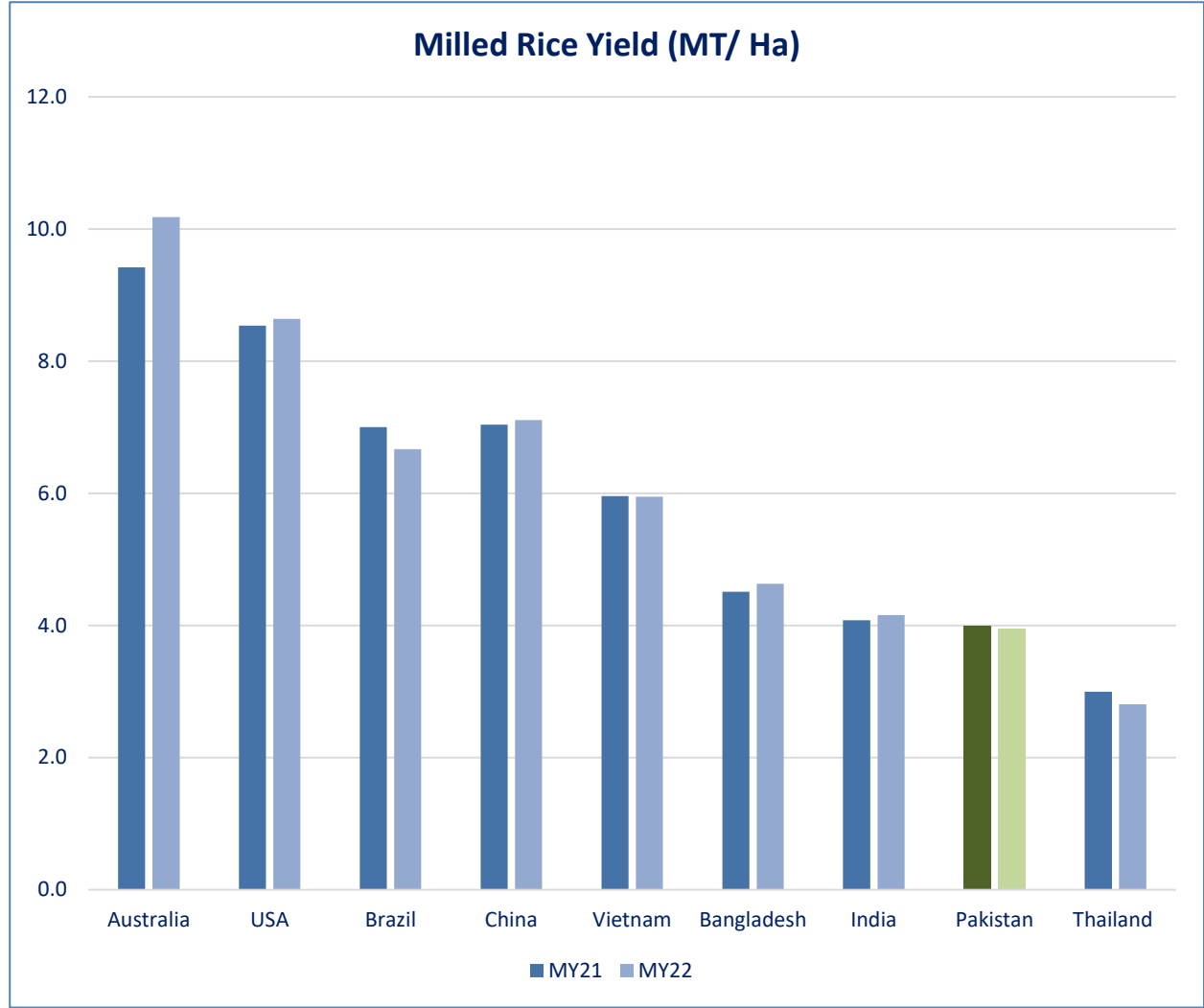
*Figures for MY22 are estimated.

**Figures for MY23 are predicted.

MY refers to the Marketing Year, which is different for each country

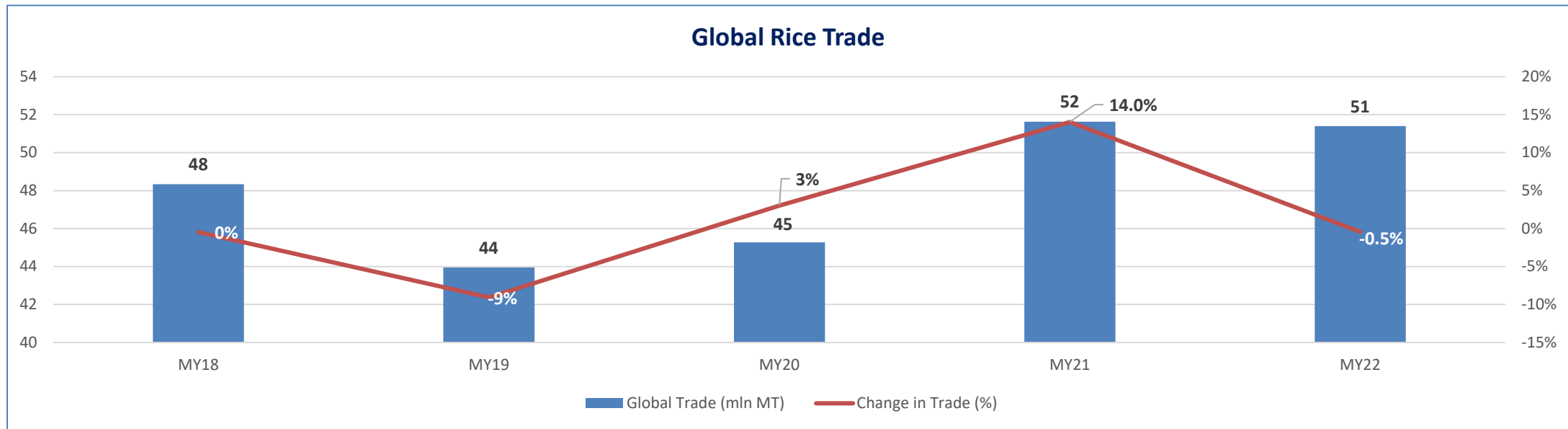
Global | Average Yields

- Average yield for rice is derived from a host of factors such as quality and type of seeds, agricultural techniques, climatic conditions and farmers' skillset.
- Australia maintained its position as the country with the highest rice yield around the globe with a yield of ~10.2MT/ Ha in MY22, up by ~8% YoY. Australia is followed by USA with a yield of ~8.6MT/Ha in MY22, up by 1% YoY.
- Amongst the regional players, China has the highest yield (~7.1MT/ Ha), followed by Bangladesh (~4.6MT/Ha) and India (~4.2MT/ Ha) in MY22. Pakistan exhibited a yield of ~4.0MT/ Ha in MY22.
- Although amongst the highest, the rice yields of Brazil, Vietnam, Pakistan and Thailand have declined in MY22 compared to MY21, the highest decrease being of ~6% observed for Thailand.
- Rice yield is recorded to be lowest in African region globally; due to inadequate water availability like in Liberia and Cameroon.



*1 Ha = 2.5 acres
 MY refers to the Marketing Year, which is different for each country. For most, it runs Oct-Sep, including China, India and Pakistan.

- For the tenure of past five years (MY18-MY22), the average volume of rice traded yearly stands at ~47mln MT with a CAGR of ~3.5%. Global trade is estimated to record around ~51mln MT in MY22, with a decline of ~0.45% YoY.
- Additionally, there have been fluctuations in trade trend in the last few years. On an average, rice trade has accounted for almost only ~10% of the total rice consumed globally.
- China is the largest importer while India is the largest exporter of rice.



*Figures for MY22 are estimated.

Global | Trade

- Global rice exports clocked in at ~51.4mln MT during MY22 with decline of ~0.45% YoY.
- The decline in exports can be attributable to ~3.3% reduction in exports of India which accounts for almost ~39.9% of the global exports, being the largest exporter in the world.
- India is the largest exports of premium grade rice, Basmati, with a share of ~90%. Pakistan, on the other hand, is also a key producer and exporter of Basmati rice but most of it is consumed domestically.
- The Middle East is the top export destination for basmati rice where it is a popular staple food. Large markets include Saudi Arabia, Iran, United Arab Emirates (UAE), and Iraq.
- Exports are also expected to decline due to lowered forecasts for China and India where restrictions were imposed based on concerns regarding domestic food security and from Pakistan where floods have damaged rice crops significantly.

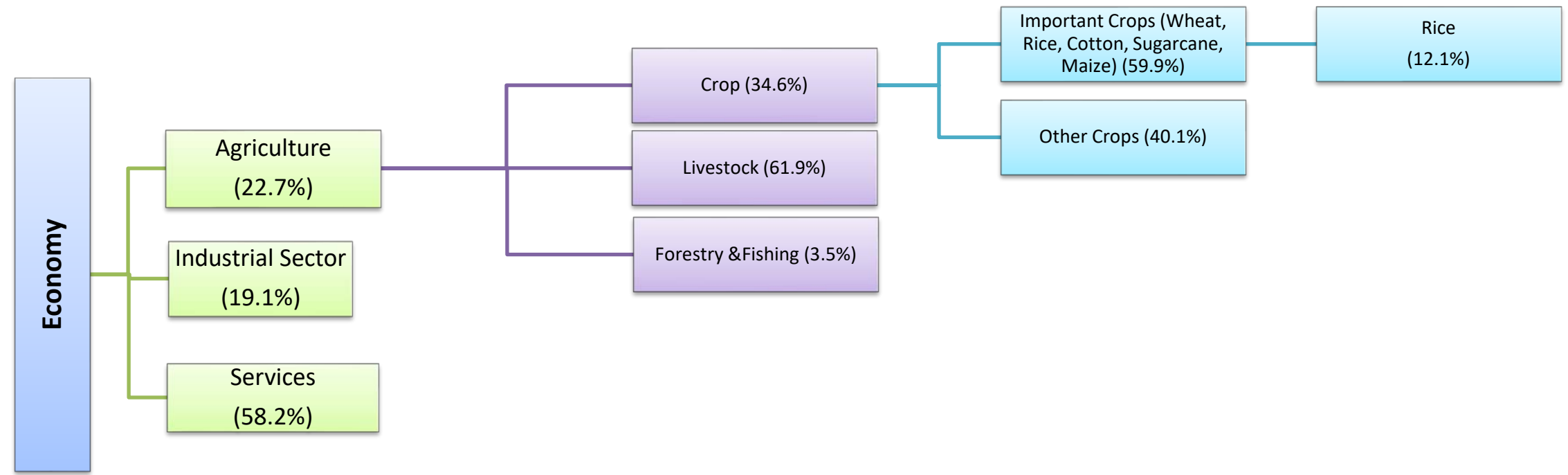
Leading Global Exporters (mln MT)					
	MY18	MY19	MY20	MY21	MY22
India	11.8	9.8	14.6	21.2	20.5
Thailand	11.2	7.6	5.7	6.1	6.6
Vietnam	6.6	6.6	6.2	6.3	6.5
Pakistan	3.9	4.6	3.9	3.9	4.2
United States	2.8	3.1	2.9	2.9	2.8
China	2.1	2.7	2.3	2.4	2.3
Burma	2.8	2.7	2.3	1.9	1.9
Cambodia	1.3	1.4	1.4	1.9	1.4
Uruguay	0.8	0.8	1.0	0.7	0.8
Brazil	1.2	1.0	1.2	0.8	0.8
Others	3.9	3.8	3.9	3.6	3.7
World	48.3	43.9	45.3	51.6	51.4

- Global rice trade clocked in around ~51.4mln MT in MY22, declining by ~0.45% YoY.
- This downward revision could potentially be due to a ~4.5% reduction in Chinese imports, which resulted from recent adverse weather conditions in the Yangtze River region.
- China, despite being the largest producer of rice is a net importer, since its domestic rice production does not cater fully to its consumption needs. Meanwhile, Pakistan, India, Thailand and Vietnam have historically remained self-sufficient in meeting their domestic demands.
- International rice market for imports is fragmented across different regions on the basis of the preferred quality and type of rice.
- In MY23, rice imports are expected to decline globally primarily because of reduced forecasts for China, Saudi Arabia and Nepal amongst others.

Leading Global Importers (mln MT)					
	MY18	MY19	MY20	MY21	MY22
China	4.5	2.8	3.2	4.9	4.7
Philippines	2.5	2.9	2.5	3.0	2.9
Nigeria	2.1	1.8	1.8	2.1	2.2
European Union	1.6	1.8	2.0	1.8	1.9
Cote d'Ivoire	1.5	1.4	1.1	1.5	1.5
Saudi Arabia	1.3	1.4	1.6	1.2	1.4
Nepal	0.7	0.6	1.0	1.2	1.4
Iraq	1.2	1.3	1.0	1.3	1.3
Malaysia	0.8	1.0	1.2	1.2	1.2
Iran	1.3	1.4	1.1	0.9	1.2
Others	30.8	27.6	28.8	32.7	31.8
World	48.3	43.9	45.3	51.6	51.4

Agriculture | Overview

- Pakistan’s economy is broadly classified into three categories: Agriculture, Industry and Services. The share of agriculture has been gradually falling since over a decade now due to increased urbanization. It fell by ~0.3% YoY in FY22.
- Despite the decline in the share of agriculture, overall output increased by ~4.4% YoY during FY22 primarily due to increased yields, attractive prices and improved availability of resources.
- The crop sector contributes ~34.6% to the agriculture, while important crops make up ~59.9% of the total crops. Crops grew by ~6.7% YoY in FY22.
- Rice, being the second major staple food item, contributed ~2.4% of value added in agriculture and ~0.5% to GDP during FY22. Rice crop production increased by ~10.7% YoY during FY22.



Local | Snapshot

- Rice is the most important cash crop in Pakistan and accounts for ~2% of the global rice production. Its production comprises 34% Basmati (fine) types and 66% coarse types. Like Cotton, Sugarcane and Maize, rice is also a Kharif crop.
- During FY22, rice contributed ~0.7% to the GDP; while its value addition to agriculture stood at ~2.4%, down from 3.5% in FY21.
- Export receipts from rice constituted almost ~7.9% to the country's export revenue in FY22, compared to ~8.07% in FY21. Although, the share in percentage terms has declined, the export receipts have increased in USD terms from USD~2,041mln in FY21 to USD~2,511mln in FY22, up by ~23% YoY.
- Rice production increased to ~8.9mln MT in FY22 from ~8.4mln MT in FY21 as the yield of the rice crop in Pakistan improved marginally from ~2.5MT/ Ha (FY21) to ~2.6MT/ Ha (FY22).
- Pakistan was projected to export ~4.1mln MT of rice in FY23. However, with an estimated ~31% damage to paddy fields due to unprecedented flood damage, especially in the Sindh region, the nation could potentially lose USD~1.2bln in export revenues.

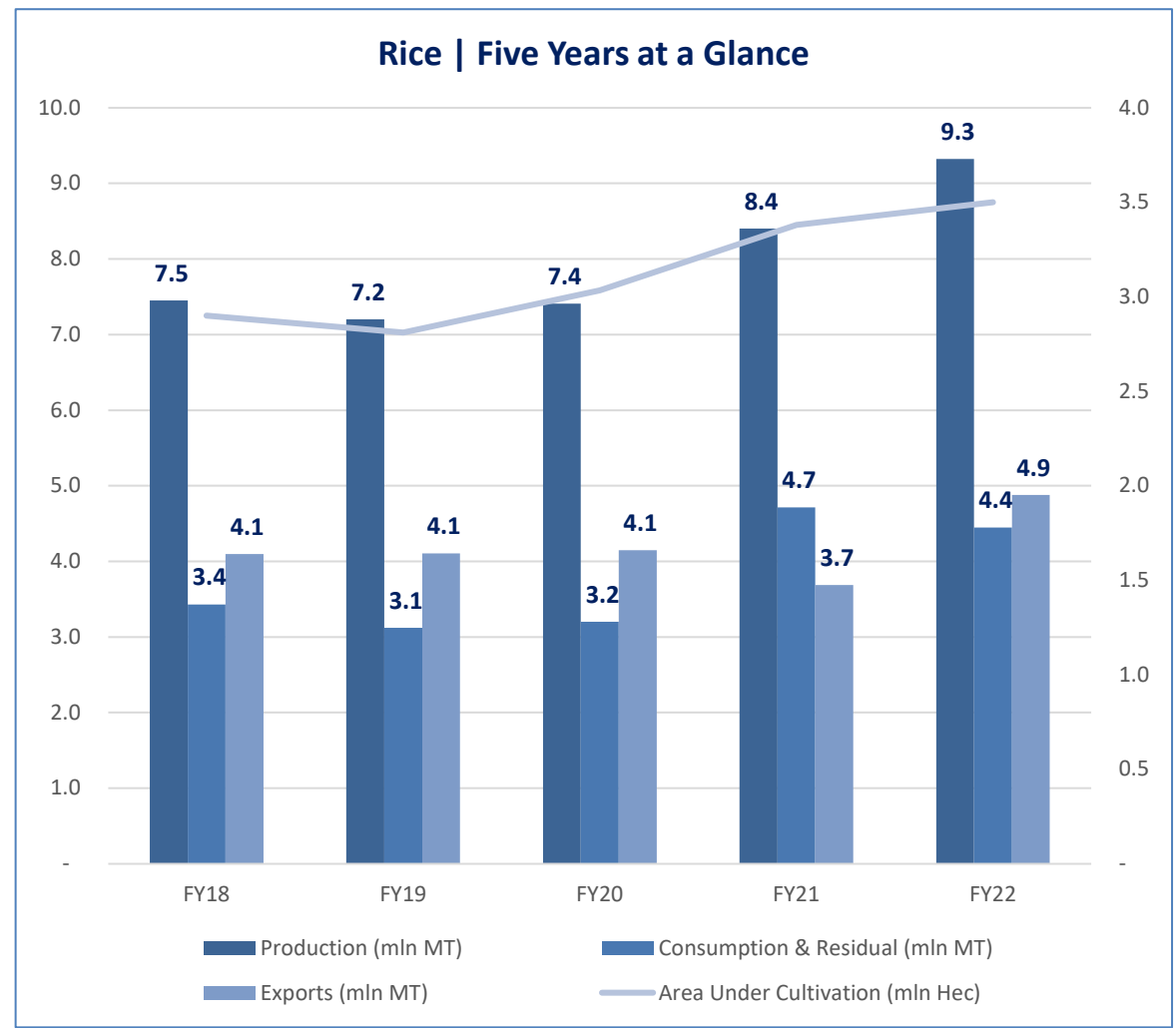
Sector Snapshot	FY21	FY22
Contribution to Nominal GDP	0.6%	0.7%
Value Added to Agriculture	3.5%	2.4%
Area Under Cultivation (mln Ha)	3.3	3.5
Production (mln MT)	8.4	8.9
Consumption (mln MT)	4.7	4.4
Yield (MT/ Ha)	2.5	2.6
Total Exports (USD mln)	2,042	2,511
Total Exports (mln MT)	3.7	4.9
- Basmati Exports (mln MT)	0.6	0.8
- Non-Basmati Exports (mln MT)	3.1	4.1
Market Structure	Fragmented	
Association	Rice Exporters Association of Pakistan	

*Estimated levels for FY22-23.

**Actual figures for 1QFY23

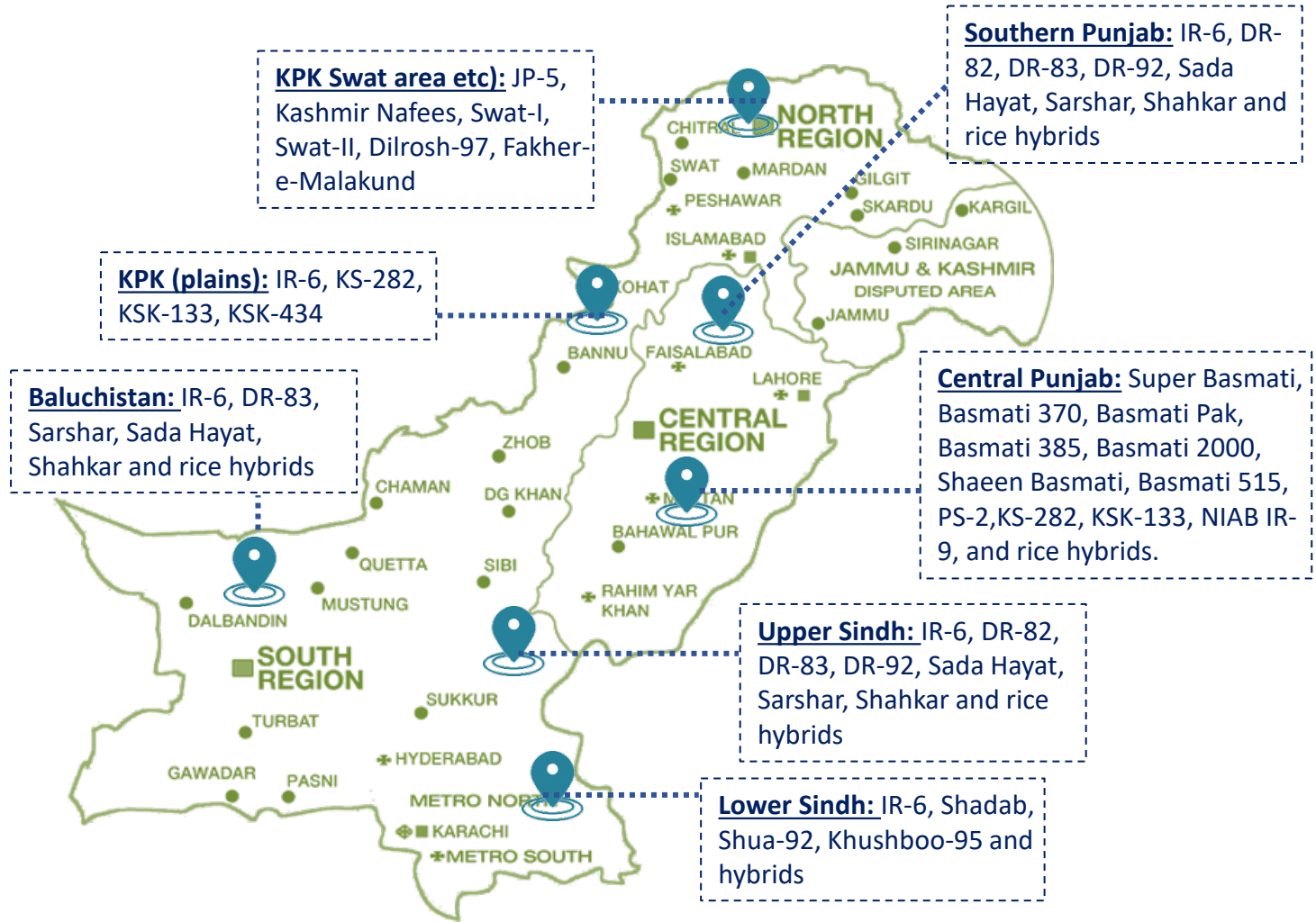
Local | Overview

- Local Production:** Average local rice production for the past 5 years (FY18 - FY22) stood at ~7.6mln MT with a CAGR of ~4.6%. In FY22, rice production was recorded at ~9.3mln MT (FY21: ~8.4mln MT), a YoY increase of ~11%.
- Area Under Cultivation:** In FY22, area under rice cultivation declined to ~3.3mln Ha (FY21: ~3.4mln Ha) with a YoY fall of ~2.4%. This decline came after an increase of ~11.4% in FY21.
- Local Consumption:** Average local rice consumption from FY18 – FY22 stood at ~3.8mln MT, showing a CAGR of 5.3%, as lifting of Covid restrictions allowed for a resumption of social events, generating positive impact on rice consumption. The recent increase in flour prices also underpinned demand for rice. In FY22, however, rice consumption was estimated at ~4.4mln MT (FY21: ~4.7mln MT), showing a YoY decrease of ~5.7%.
- Exports:** Average rice exports from FY18 - FY22 stood at ~4.2mln MT. In FY22, rice exports were recorded at ~4.9mln MT (FY21: ~3.7mln MT), with a YoY increase of ~32.4%. The increase in rice exports could have resulted from competitive prices in the international market as a consequence of significant rupee depreciation.



Geographical Overview

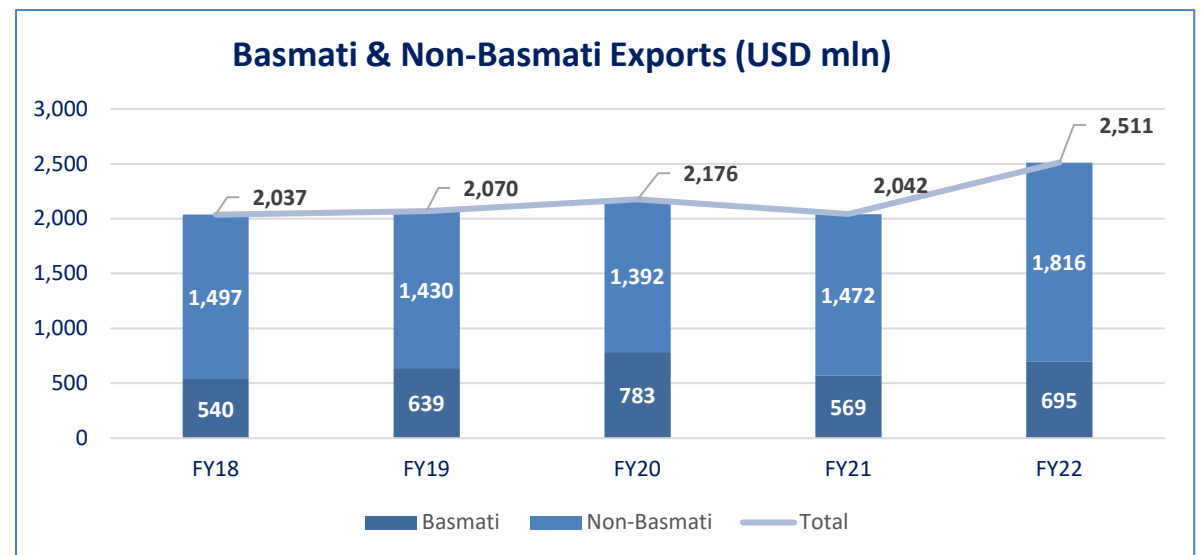
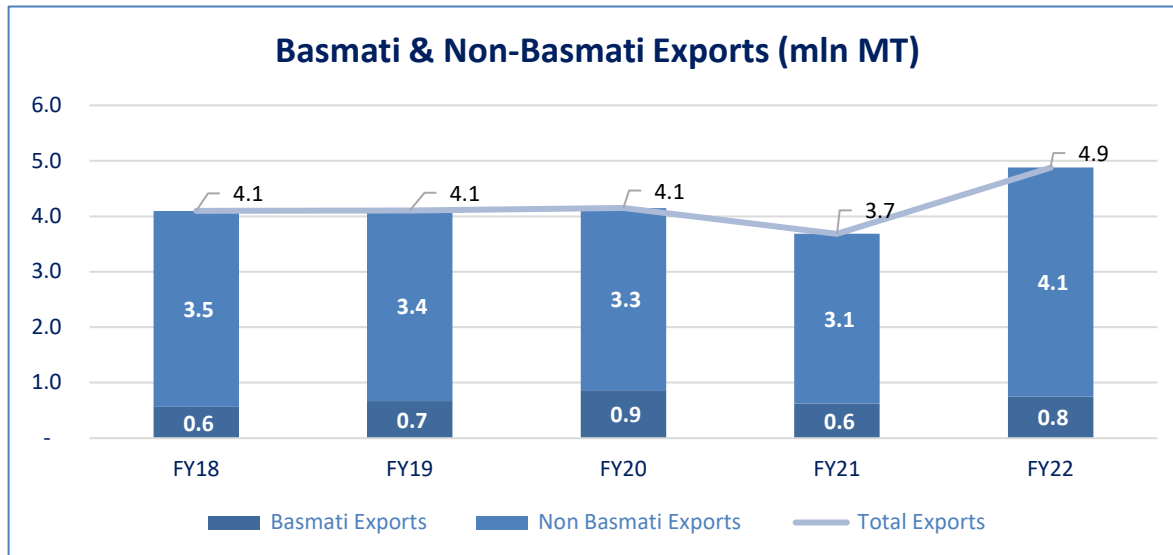
Geographical Distribution of Types of Rice in Pakistan



- Pakistan has two major rice-producing regions; Punjab and Sindh. Together, both provinces account for nearly ~90% of total rice production.
- Punjab, due to its agro-climatic and soil conditions, produces 100% of the Basmati rice in the country, which is a premium quality and expensive rice as compared to non basmati rice.
- Sindh region is enriched with cultivation of Non-Basmati rice, mainly IRRI-6, which is majorly exported to the African regions.
- Sindh region is further bifurcated into two parts due to differing land characteristics and water availability, hence the quality differs according to the varieties.

Local | Trade

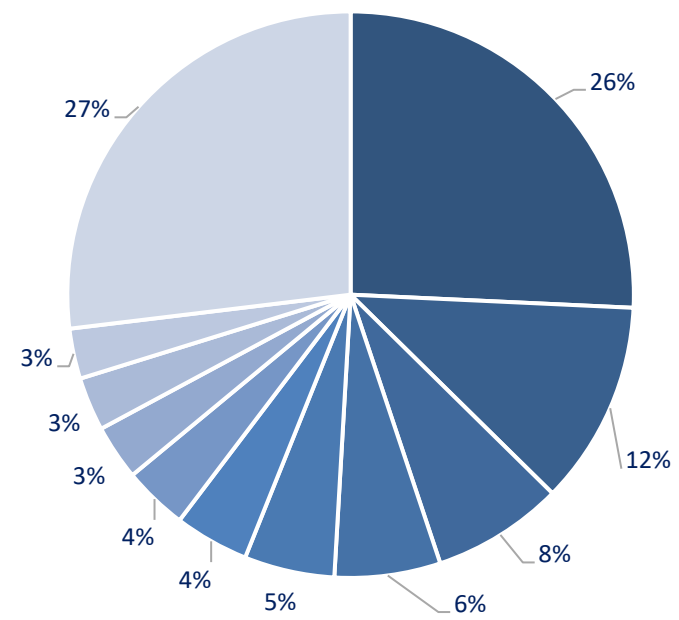
- Pakistan’s Basmati Rice is considered a high grade premium quality rice in international market, particularly in the EU and Middle East. The price of Basmati Rice is almost double the price of Non-Basmati rice; however, the latter forms a major portion of total export quantum. Rice export is significant for Pakistan as rice proceeds constituted ~7.90% of total export proceeds during FY22 (FY21: ~8.07%), while exports grew by ~32.4% YoY in FY22.
- **Basmati Exports:** The country’s average Basmati exports for the period FY18 - FY22 stood at ~0.7mln MT. In FY22, exports were recorded around ~0.8mln MT (FY21: ~0.6mln MT), a YoY increase of ~21.2%.
- **Non-Basmati Exports:** Average Non-Basmati exports (FY18-FY22) stood at ~3.5mln MT. In FY22, exports were recorded at ~4.1mln MT (FY21: ~3.1mln MT), with a YoY increase of ~34.6%.
- The rise in rice exports can be attributed to the relatively lower prices in the international market than the main competitor, India. It could also be due to the increased control and trade restrictions imposed on export of rice by Indian government with concerns of local food security.
- During 1QFY23, Basmati rice exports decreased by ~15% compared to corresponding period last year, possibly due to water shortage in key producing areas of Sindh and Punjab.



- Middle East countries are the largest buyers of Pakistan’s basmati rice in which UAE has ~26% share in total basmati rice export of the country followed by Saudi Arabia, Oman and Kenya having ~12%, ~8% and ~6% shares respectively.
- Kenya is the largest importer of Pakistan’s Non-Basmati rice with a share of ~20% in total export.

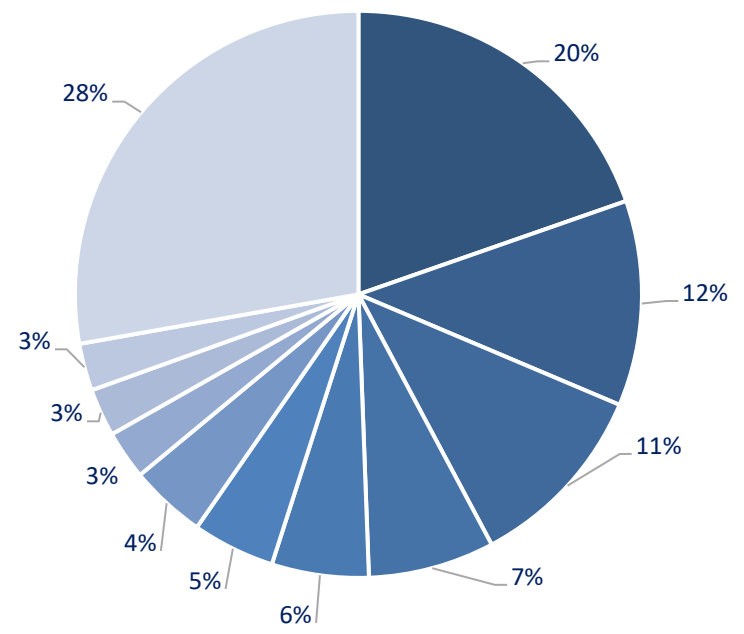
Basmati Importing Countries (FY20)

- United Arab Emirates
- Saudi Arabia
- Oman
- Kenya
- USA
- Yemen
- Kazakstan
- Somalia
- Malaysia
- United Kingdom
- Others



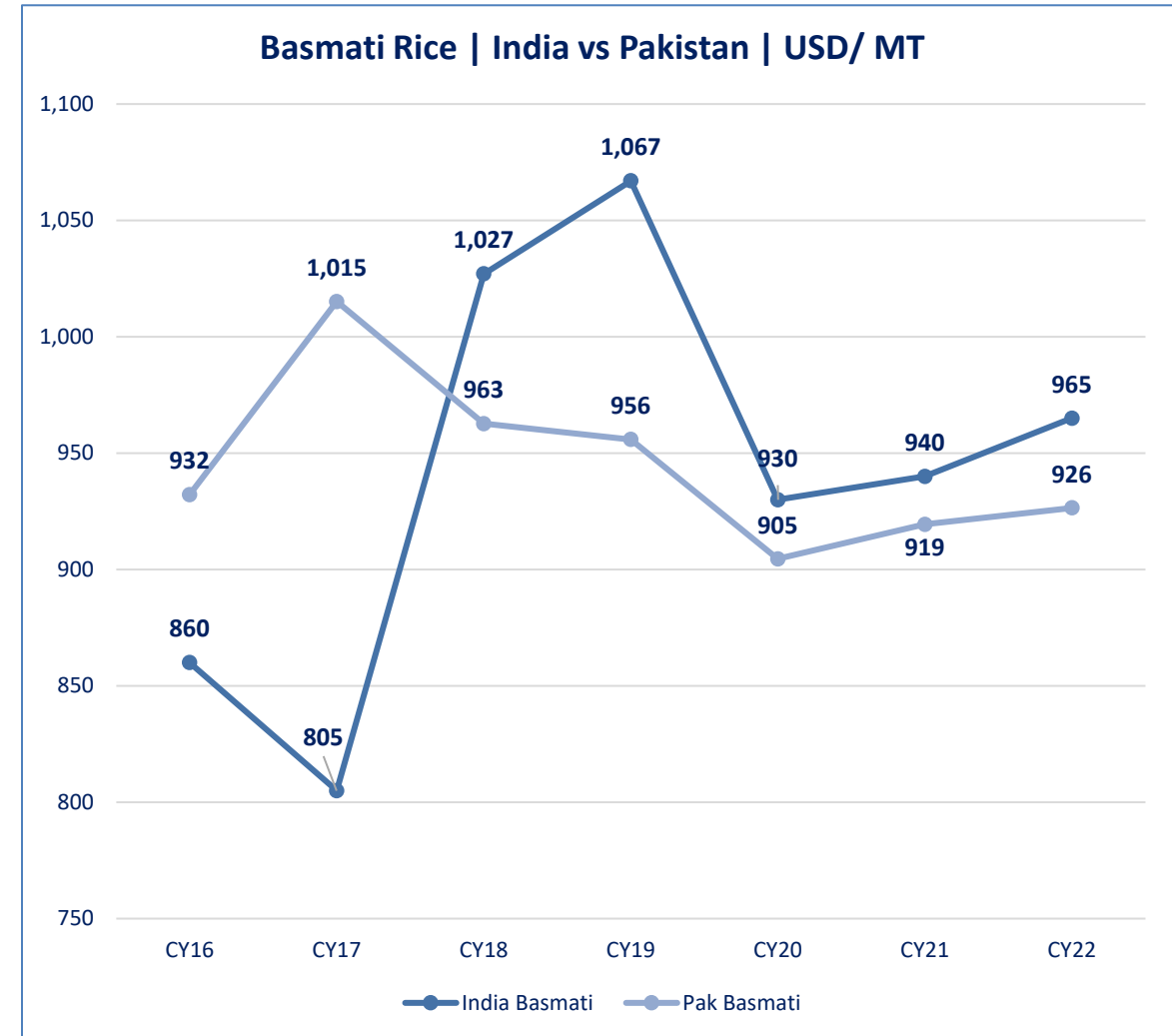
Non-Basmati Importing Countries (FY20)

- Kenya
- China
- Mozambique
- Tanzania
- Afghanistan
- Malaysia
- Benin
- Madagascar
- Somalia
- Togo
- Others



Price Dynamics | Basmati | Export

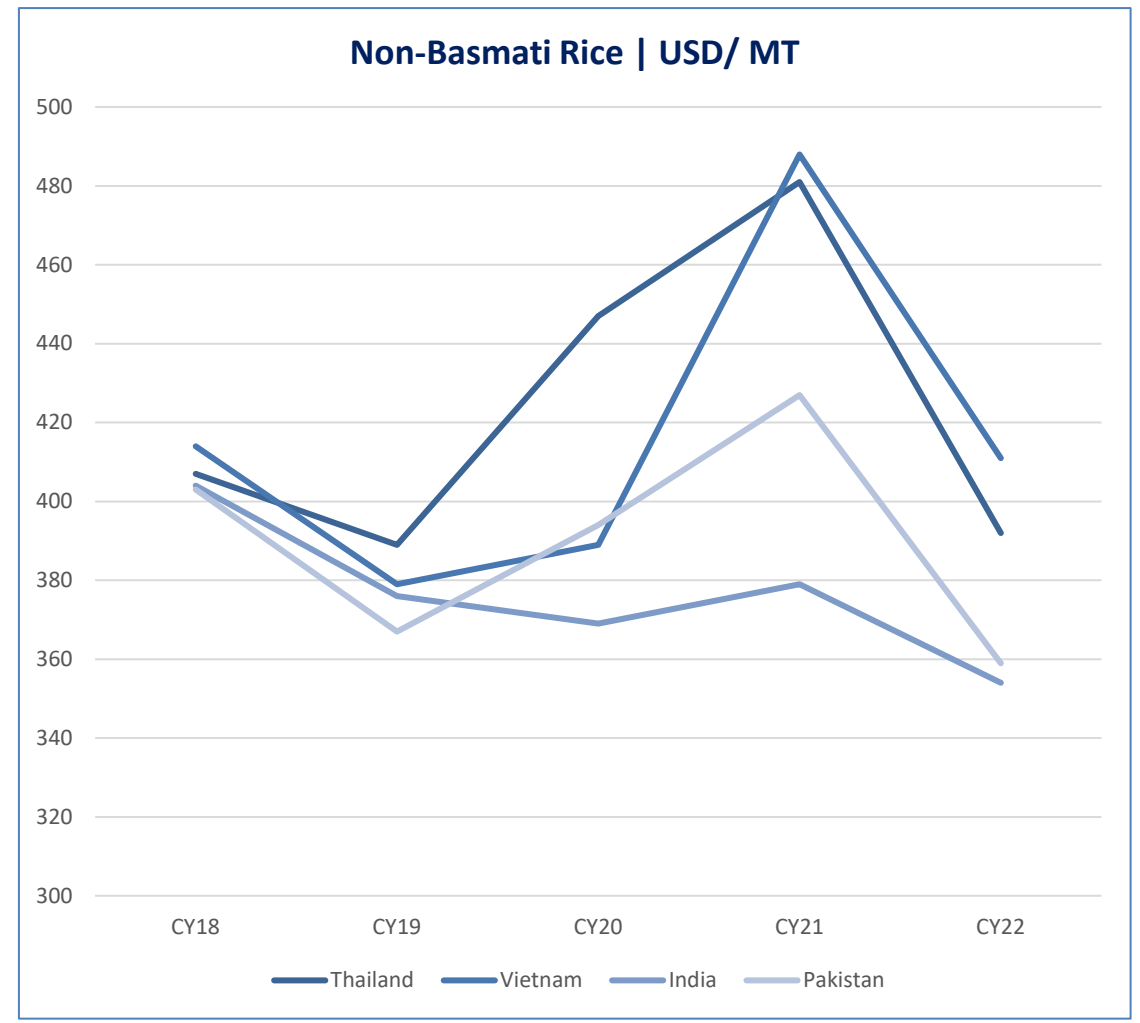
- Basmati rice is a high-grade, premium quality product valued for its special aromatic qualities. India and Pakistan are the largest producers and exporters of basmati rice, with India accounting for ~90% of global basmati exports.
- India dominates Basmati exports while Pakistan is the other key Basmati producer. Despite increased global demand for this premium commodity, most of the basmati rice produced in Pakistan is consumed domestically.
- Price of Indian Basmati rice has taken lead from CY18 and since has been higher than Pakistan's Basmati Price in the international market. This spike was primarily due to increase in demand from Iran.
- For CY22, Indian Basmati Price stood at USD~965/MT up by 2.7% YoY due to export restrictions by Indian government and increased demand of basmati rice from rice importing regions like Middle East, EU, etc.
- On the contrary, for the same period (CY22), the average export price of Pakistani basmati increased by only ~0.8% to USD~926/MT (CY21: USD~919/MT). Basmati rice exports accounts for ~28% (in value terms) of the total rice exports of Pakistan (the rest is non basmati exports).



*Figures for CY22 are estimated.

Price Dynamics | Non-Basmati | Export

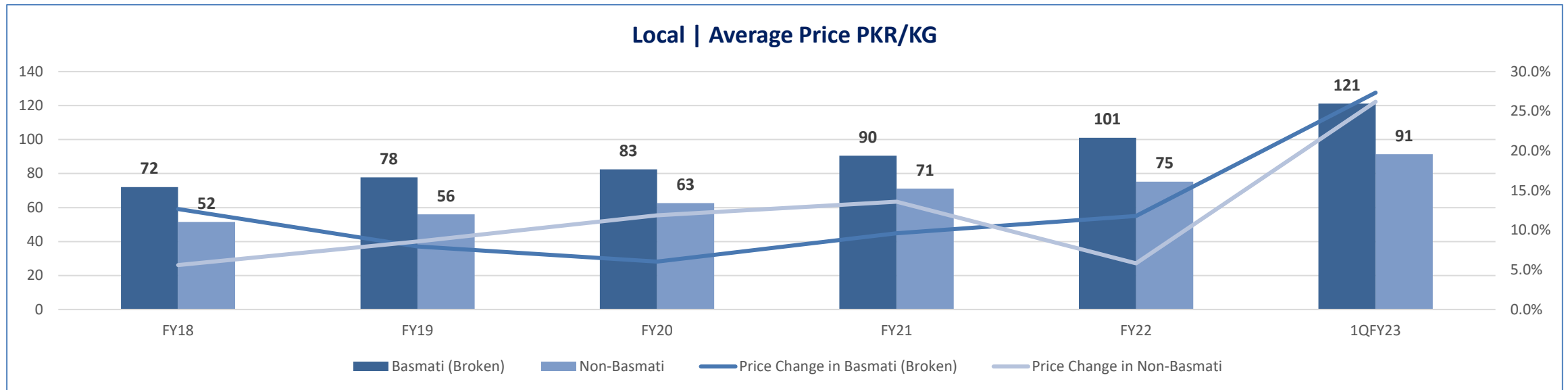
- The third largest exportable category of rice by Pakistan is broken rice. Pakistan exported broken rice worth USD 251 million in 2021.
- The top 4 exporters of broken rice include Thailand, Vietnam, India and Pakistan.
- In 2021, India emerged as the leading exporter of broken rice. It exported broken rice worth USD 1.03 billion in 2021 followed by Thailand, Pakistan, Vietnam, and Myanmar.
- As of CY22, Indian rice is trading at a hefty discount compared to Thai rice because of depreciation in the rupee, which has increased traders' margin from overseas sales.
- Global demand for Vietnamese rice is expected to remain strong during the rest of the year due to the Ukraine-Russia conflict.



Figures for CY22 are estimated.

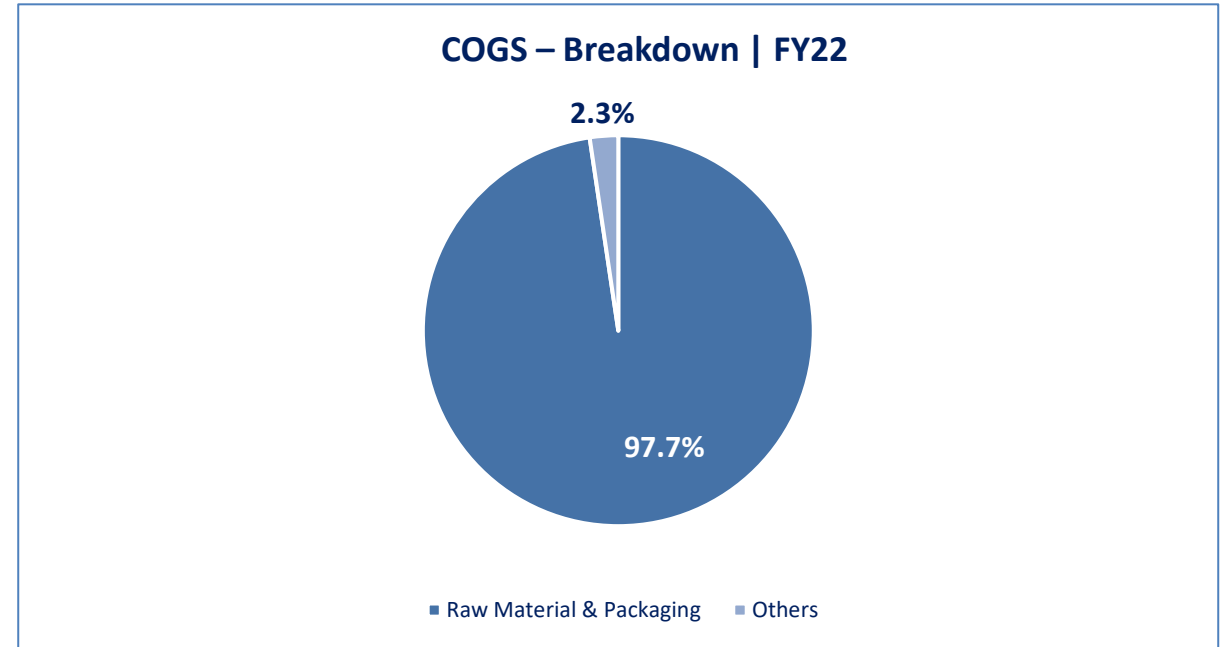
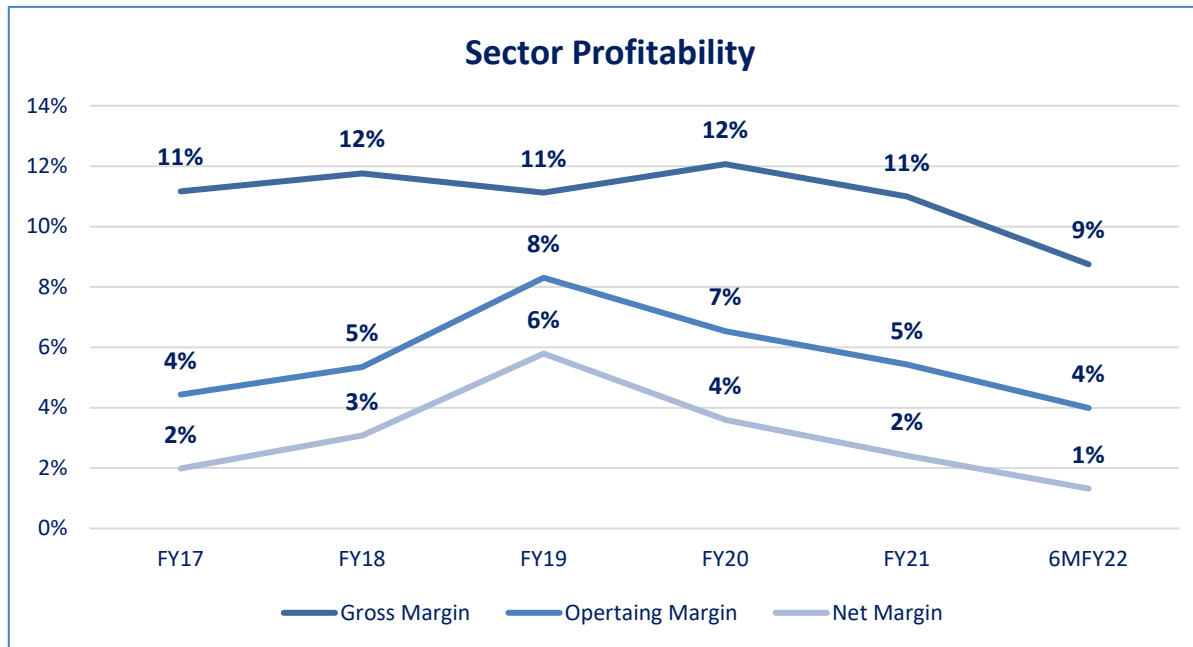
Price Dynamics | Local

- Generally, the average price for both Basmati and Non-Basmati rice has shown an increasing trend over the last few years.
- Average price for the Basmati (broken) during FY22 increased by ~11.8% YoY reaching to PKR~101/Kg from PKR~90/Kg in FY21. This rise is primarily due to the increased domestic inflation and heightened demand of rice in the native market.
- Similarly, the average price for Non-Basmati rice increased to PKR~75/Kg in FY22 up by ~5.8% YoY from PKR~71/Kg in FY21.
- Average Basmati prices for the first quarter of current fiscal year, clocked in at PKR~121/Kg (an uptick of ~27.3%, compared to last year's corresponding period), while Non-Basmati price was recorded at PKR~91/Kg (an increase of ~26% compared to 1QFY22).



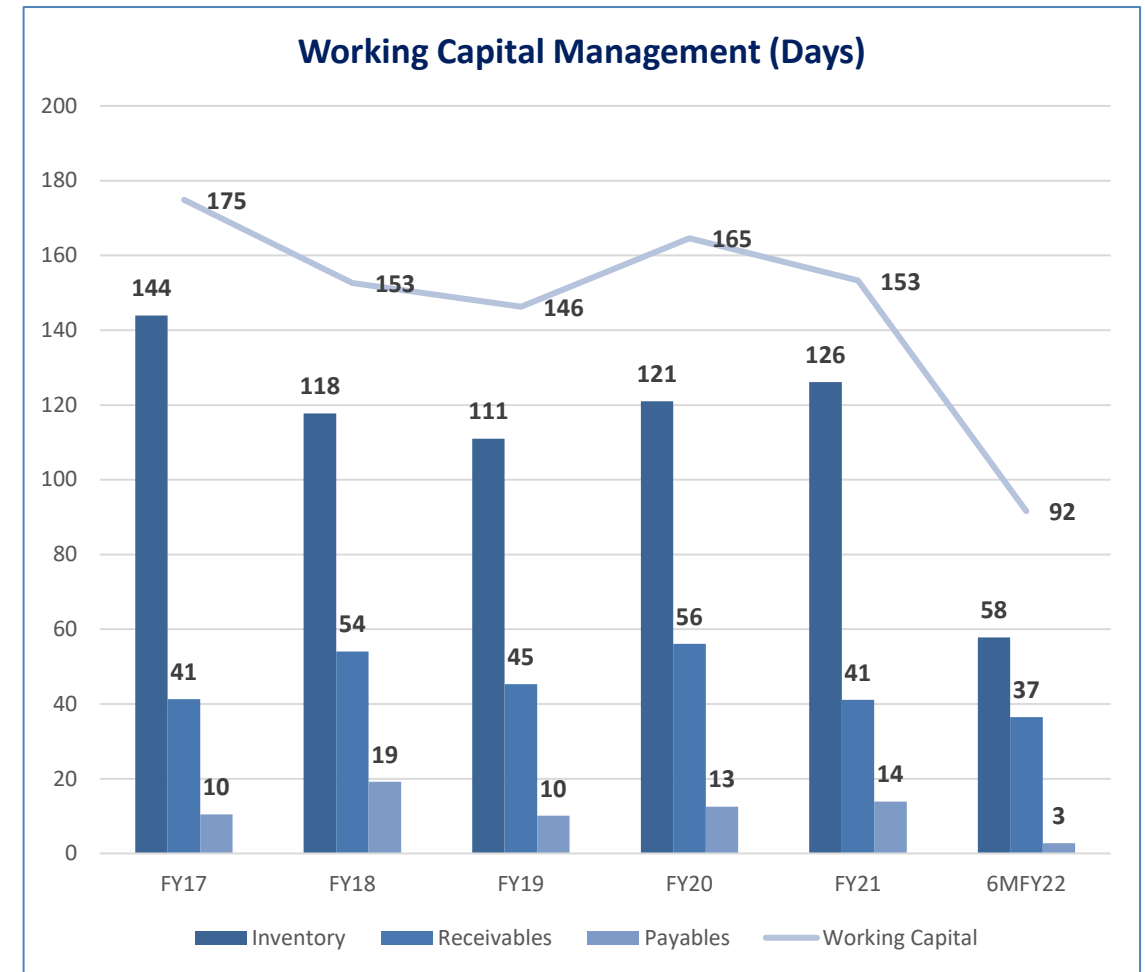
Business Risk

- Gross margins for the rice millers stood at ~11.4% on average for the last five years (FY17-FY21), with a slight decline in FY21 (~11.0%) from FY20 (~12.1%). A similar trend is followed for both operating margins and net margins. Net Margins for FY21 (~2.4%) also declined compared to FY20 (3.6%) resulting in average net margins for the last five years to be around ~3.4%. Gross Margins for 6MFY22 have also declined substantially falling to ~8.7%, operating margins to ~4.0% and net margins to ~1.3%.
- This decline in margin could be attributed to rising costs especially due to the rise supply chain costs as a result of hiked petroleum prices. Interest expense after a significant rise during FY19 & FY20, have marginally declined in FY21.
- The largest component within direct costs is raw material comprising ~98% of the total cost of sales of rice companies, therefore any fluctuation in the price of raw material or availability constraint can impact the margins of the sector.



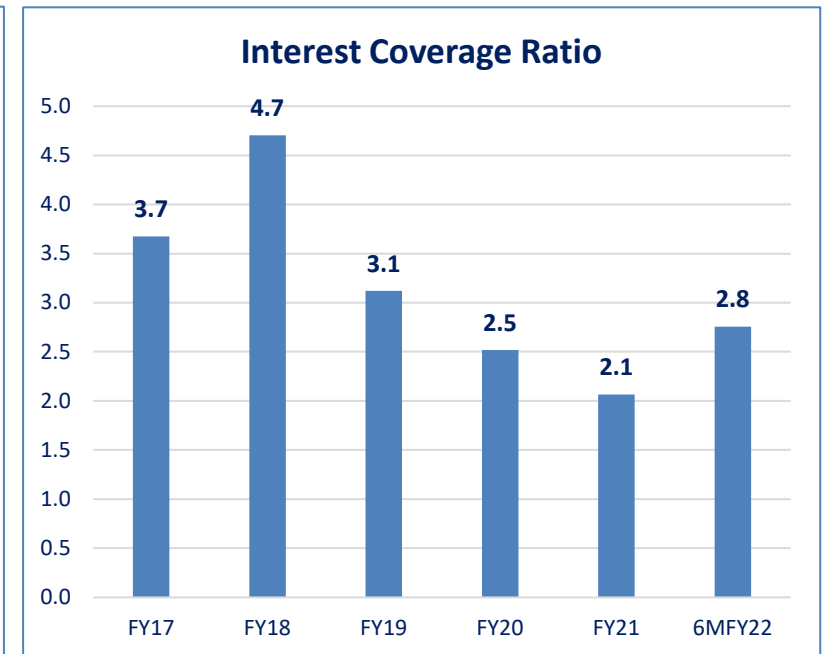
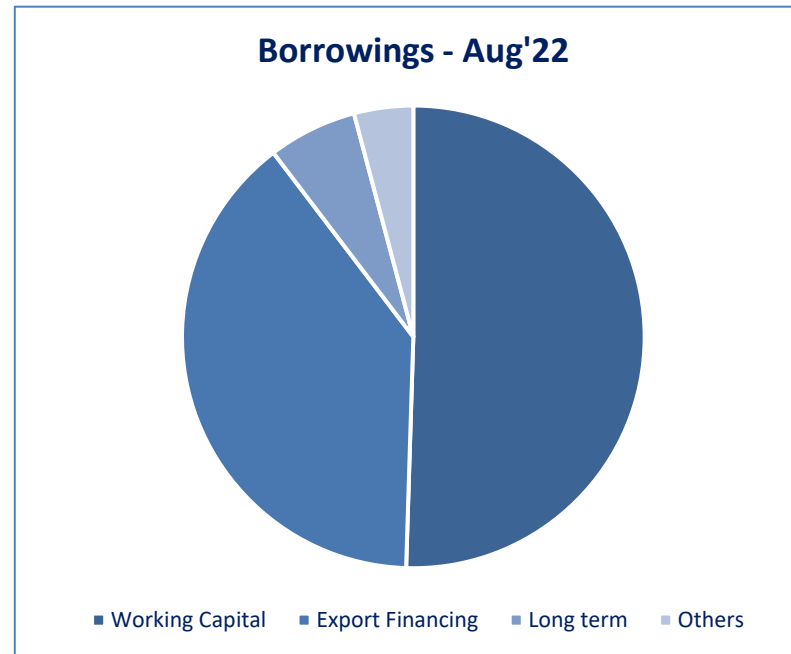
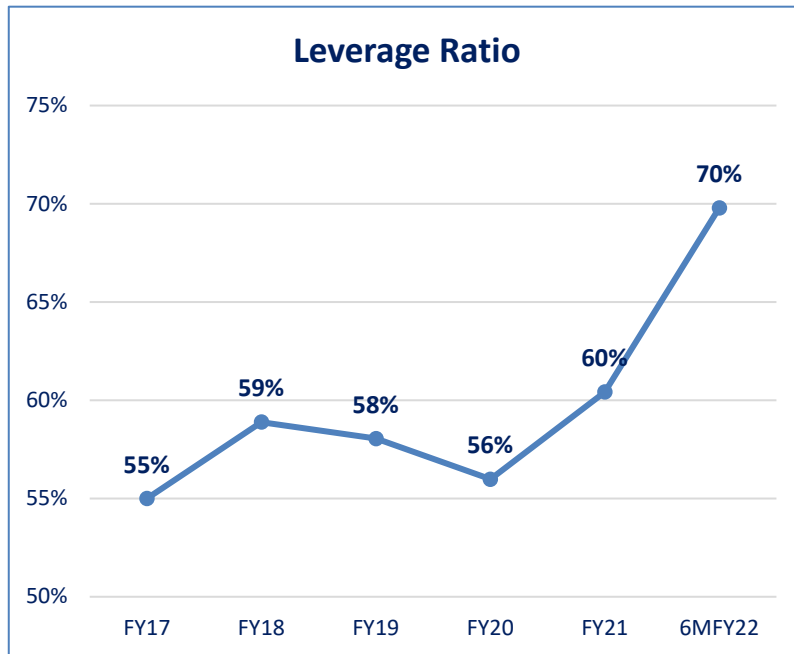
Financial Risk | Working Capital Management

- Working capital days declined to ~153 days during FY21 (FY20: ~165 days) due to a significant dip in receivable days as late payment pressures induced in by COVID-19 pandemic substantially eased off in FY21. For 6MFY22, working capital days stood at ~92 days. It is expected for it to rise to ~183 days for FY22.
- The sector's inventory is generally maintained around for 4 months of sales. It stood at ~126 days in FY21, compared to ~58 days for 6MFY22 period. This is primarily because working capital pattern is aligned to rice crop cycle. Most of the exported rice is majorly offloaded following December, after the harvesting season. Milled rice stock levels at December end are, therefore, generally high, which are largely offloaded in the first quarter of the next year.
- In FY21, receivable days have declined to ~41 days (FY20:~56 days), with a YoY decrease of ~15 days. It was ~37days for 6MFY22 which illustrates that the receivables days might rise for FY22. All rice exports are secured against either Letter of Credit (LC) or Cash Against Document (CAD).
- Average payable days stand ~13 days for last few years. Since rice is a cash commodity and in order to secure supply of paddy and processed rice, the sector usually makes cash payments and sometimes even advance payments to its suppliers that leads to low payable days.



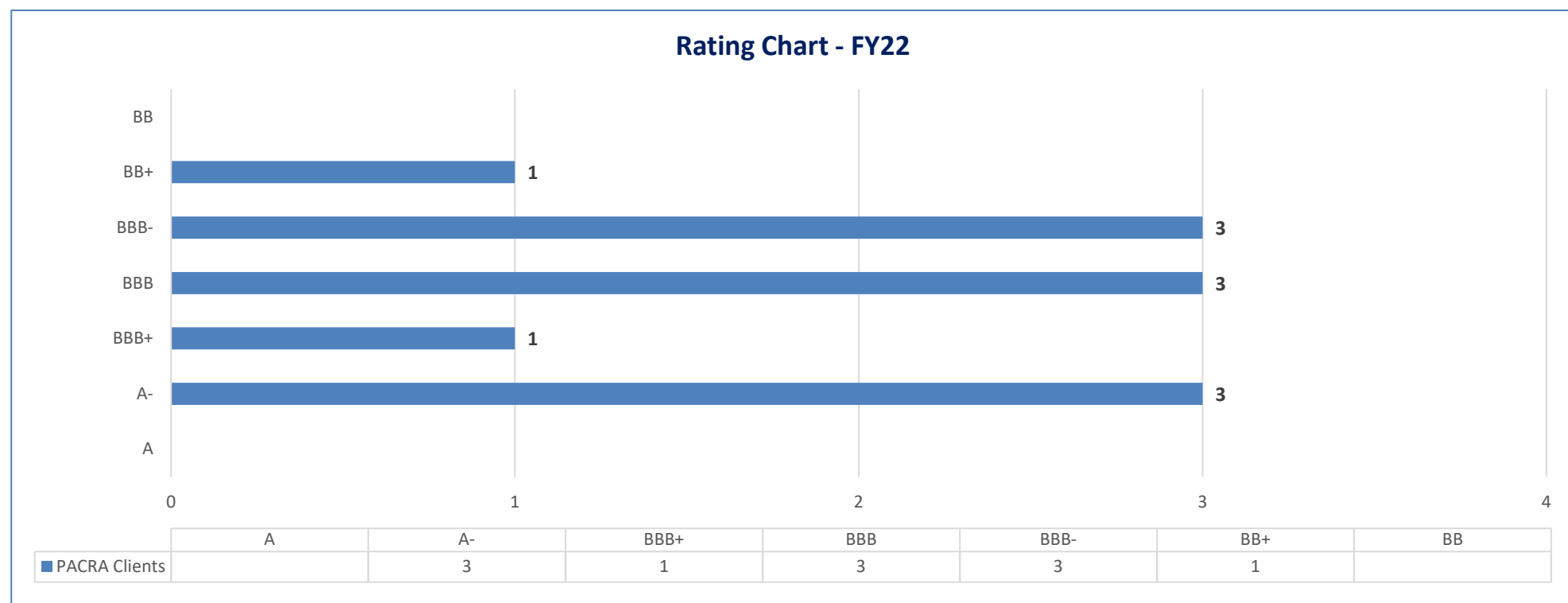
Financial Risk

- Debt to equity for rice millers has been moderate over the years averaging around ~55% for the last five years (FY17-6MFY22). However, the leverage has been increasing significantly since FY20, and rose to ~70% during 6MFY22; highest since the last many years.
- Borrowing by rice millers stood at PKR~187,302mln by Aug22; up by ~29% YoY against the same period (Aug21) at which borrowing stood at PKR~145,234mln. Over half of the borrowing book is allocated to working capital financing while ~39% is export-related financing, This makes ~90% of the borrowing short term in nature due to the business requiring less capital financing. Significant reliance on short term borrowings makes the business more prone to financial risk.
- The rising leverage ratio and interest expense have led to a declined in interest coverage ratio over the years; however, it still remains reasonable. The interest coverage fell to ~2.1x in FY21 against ~2.5x since FY20. For 6MFY22, the interest coverage has improved to ~2.8x.



Rating Curve

- PACRA rates 11 clients in the rice sector against only 7 in FY21.
- Rating bandwidth of the sector lies between BB+ to A-.



SWOT



Outlook: Negative

- Rice maintains its position as one of the most imperative cash crops for Pakistan being the second most important staple food after wheat. Rice contributes significantly towards agriculture value addition and foreign exchange reserves comprising ~8.0% of the total export receipts on average.
- Rice exports expanded by ~32.4% YoY in FY22 due to the competitive prices in the international market and increased rice export restrictions by Indian government, the main regional competitor. However, due to the devastations caused by floods, where it is predicted that ~31% of the rice crop area has been damaged, it is likely to bring down export revenues; especially from the Non-Basmati rice which is mainly grown in Sindh, the province tremendously destroyed by floods.
- Despite the stagnant yield during FY22, rice crop production reached highest ever in last seven years to ~9.3mln MT with ~11.0% YoY increase. For FY23, it is expected for the yield to decline and thus the crop production to be adversely affected as a consequence of the ruined land quality. This is also likely to affect the quality of rice produced in flood affected areas.
- The sector is characterized with high working capital needs with inventory and receivable days following a cyclical pattern based on crop cycles. Significant reliance on short term borrowing amid low payable days increases the financial risk of the sector. However, this is balanced off by reasonably good interest coverage ratio for the sector and letter of credit backed receivables.
- Given the rising interest rates and global inflation, along with the havoc caused by floods domestically, it seems challenging for the sector to meet its production targets and maintain profitability. Although consumption would stay on the higher end due to rising population and increased rice demand, exports are expected to fall. The declined availability of rice is likely to push prices up which may fill in for some reduced losses due to reduced production. Additionally, since the country's production outpaces consumption levels, the medium-long term outlook may eventually improve due to low import requirement.

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