

## Rice Sector

*Rice production holds an important position in the Pakistan's agriculture sector and contributes 3.2% to the total value added in agriculture and 0.7% of GDP...*

Rice is staple food for around half of the world's population and has the third highest world-wide production as an agricultural commodity, after sugar cane and maize. Rice production and consumption is concentrated in the Asian region with China, India, Thailand and Indonesia being among the largest producers and consumers. Rice is more productive specie as compared to other cereals resulting in preference for rice cultivation in eastern cultures; not only is the yield per hectare superior as compared to other cereals, the crop allows several harvests every season.

Rice cultivation is well-suited to countries with low labor costs and high rainfall, as it is labor-intensive to cultivate and requires ample water. Moreover, rice requires temperature of over 80 degrees Fahrenheit during the growing season. Alluvial soil and heavy sub soil with water retaining capacity results in enhanced yield of the crop. Since the flooding of rice fields requires level land, hence river valleys, deltas and coastal plains are most suitable for rice cultivation. Most popular method of rice cultivation is "transplantation", where sowing is first performed in nursery beds and the plants are subsequently transplanted to big fields as they attain a height of 4 to 6 inches. This method generates higher yield compared to other methods.

Rice is traded in three primary forms: fully milled, brown, and rough rice. Rough rice is rice that has not been milled, thus both the husk (outermost layer of the paddy grain) and the bran layer remain attached to the kernel. Brown rice is rice that has the husk removed but the bran layer is still attached. Fully milled rice has both the husk and bran layer removed. The more of the bran layer that is removed the greater the degree of milling and typically the higher the price. In addition, the fewer broken kernels, the higher the price. There are four major categories of rice worldwide:

- **Indica Rice:** Indica rice is the dominant type of rice traded worldwide, accounting for almost four-fifth of global trade. Indica rice cooks dry, separate, and fluffy.
- **Japonica Rice:** Is short grain and mostly grown in Japan. When cooked it has a sticky texture such that it can easily be picked up and eaten with chopsticks. Outside Japan it is sometimes labeled sushi rice.
- **Aromatic Rice:** Medium- to long-grained and known for its nut-like aroma and taste. Varieties of aromatic rice include basmati and jasmine.
- **Glutinous Rice:** Has opaque grains, very low amylose content, and is especially sticky when cooked

Major by-products of rice are as follows:

- Rice husk is used as an abrasive and fuel in power plants.
- Rice bran is used in cereals, mixes and vitamin concentrates, due to presence of vitamin B6, iron, phosphorus, magnesium, potassium, nicacin, and thiamin content.

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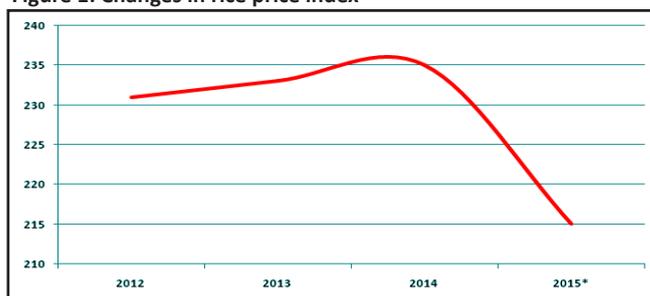
- Rice Bran Oil is extracted from the outer layer on the brown rice kernel.
- Broken Rice Pieces of rice kernels (that are less than ¾ of a full kernel) are used for manufacturing various products, including rice flour and pet foods. Rice Flour can be further used to produce rice pasta, crisps, cereals and snacks.
- Rice Starch, produced from the endosperm of the grain, is used as a thickener in sauces and desserts.
- Ash from rice husk can be used for cleaning teeth and can also be further processed into cellulose products e.g. rayon and rice fuel.

### International Market

Global rice prices depicted a decreasing trend in FY15, on account of subdued international demand coupled with the excess global supply, particularly by the major rice producer, Thailand. This declining trend is captured in the rice price index, established by Food and Agriculture Organization (FAO).

Composition of major rice exporting countries did not witness any change during the year, with the same 5 countries forming the panel of top-5 rice exporters in the world. However, volatility in terms of market share of these countries was observed

Figure 1: Changes in rice price index



\*Jan-Sep 2015 (2002-2004 = 100), Source: FAO

	FY11	FY12	FY13	FY14	FY15*
Thailand	29.0%	18.0%	17.0%	25.4%	25.8%
India	13.0%	27.0%	26.5%	25.2%	21.1%
Vietnam	19.0%	20.0%	16.9%	14.6%	15.7%
Pakistan	9.0%	9.0%	10.4%	7.9%	9.2%
United States	8.0%	9.0%	8.3%	7.0%	8.0%

Source: United States Department of Agriculture  
\*Projected

Thailand was the leading exporter of rice in FY11. Subsequently, it lost its leading position to India for a span of two years due to occurrence of two major developments. Government of Thailand initiated a support price scheme in 2011, with an impending view to

maintain a stockpile and drive the international rice prices upwards. However, at the same time, Indian government released the excess rice stock in the international market, which it had previously accumulated to ensure local food safety. Moreover, devaluation in Indian currency also aided India to penetrate the international market. Consequently, India was able to overtake Thailand as the leading exporter of rice in the world. After abolishment of Thailand's rice support scheme in February 2014, authorities proceeded to offload the excess stockpiles in international market, despite incurring a loss. This has resulted in Thailand re-gaining its leading rice exporter position.

China was the largest importer of rice representing 10.6% of total imports in FY14<sup>1</sup>. Nigeria and Iran were the other large importers with a share of 8.2% and 4.0% of total imports, respectively. Chinese imports are driven by the presence of Chinese government's support price policy to aid the local farmer, which has resulted in an increase in local rice prices. Consequently, Chinese mills continue to retort to cheap overseas rice due to high local rice prices. Going forward, China is expected to top the importer list in the ongoing year as well, since it is in process of signing phytosanitary protocol for rice, which will allow US rice exporters' access to the Chinese market. Currently, China imports majority of the rice quantity from Vietnam.

<sup>1</sup> United States Department of Agriculture

## Domestic Market

Rice production holds an important position in the country's agriculture sector and contributes 3.2% to the total value added in agriculture and 0.7% of GDP<sup>2</sup>. Rice ranks second amongst the staple food grain crop in Pakistan and it has been a source of major foreign exchange earnings over the years. Exports of rice from Pakistan comprise almost one-tenth of total rice exports. Most of the rice crops are grown in the fertile Sindh and Punjab region with millions of farmers relying on rice cultivation as their major source of employment. Major varieties of rice produced in the country include Super Kernel Basmati, PK-385 Basmati and PK-198 Basmati. Popular non-basmati varieties of Pakistani rice include Long Grain PK-386, Irri-9 and Irri-6<sup>3</sup>. Basmati rice is mostly cultivated in Punjab with non-basmati varieties grown in Sindh.

Rice industry in Pakistan is fragmented with significant number of small growers and producers. Given the industry structure, market forces determine price levels. In the backdrop of the current challenging operating environment, some consolidation has been witnessed with smaller players exiting the market; however, industry structure continues to remain fragmented.

According to the provisional data compiled by Pakistan Bureau of Statistics, area under rice cultivation witnessed an increase to 2,891 thousand hectares from 2,789 thousand hectares in FY14, thereby exhibiting an increase of 3.6%. Rice production also peaked to 7,005 thousand MT during the same period, while the yield exhibited marginal decrease to 2,423 Kgs/Hectare. Rise in the production can be attributed to timely availability of irrigation water and increase in cultivation area.

Years	Area		Production		Yield	
	Hectares (in 000s)	% Change	Tons (in 000s)	% Change	Kgs per hectare	% Change
FY11	2,365	-	4,823	-	2,039	-
FY12	2,571	8.7%	6,160	27.7%	2,396	17.5%
FY13	2,309	-10.2%	5,536	-10.1%	2,398	0.1%
FY14	2,789	20.8%	6,798	22.8%	2,437	16.3%
FY15	2,891	3.6%	7,005	3.0%	2,423	-0.6%

*Source: Pakistan Bureau of Statistics  
P: Provisional (July-March 2015)*

Sluggish demand and decline in prices of rice has resulted in significant rise in unsold stock for industry players. Exports of basmati rice have particularly come under

pressure on account of competition from India where lower cost of production and higher quality of output has resulted in an advantage for Indian rice exporters. Profitability of domestic producers has been adversely impacted on account of high cost of production and low export prices, thereby squeezing margins. Average unit price for basmati rice exports of Pakistan declined to \$1,007 in FY15 from \$1,153 in FY14. Similar trend was also observed in non-basmati category as average unit price amounted to \$382 per unit in comparison to \$400 per unit in FY14.

Years	Basmati Rice Exports		Non-Basmati Rice Exports	
	Quantity (MT)	Value (\$)	Quantity (MT)	Value (\$)
FY11	1,137,943	952,694,304	2,563,664	1,399,147,769
FY12	968,941	844,216,279	2,755,905	1,138,453,132
FY13	630,035	626,691,715	2,858,978	1,237,022,175
FY14	733,860	846,240,671	2,627,899	1,210,894,760
FY15	676,630	681,548,911	3,054,680	1,167,152,158

*Source: Rice Exporters Association of Pakistan*

<sup>2</sup> Economic Survey of Pakistan 2014-15

<sup>3</sup> <http://www.crystalcommodities.com/rice.php>

As evident from Table 3, in quantity terms, exports of Pakistan stood higher at 3.73m tons (FY14: 3.36m tons); however in dollar terms rice exports were lower at \$1.85b (FY14: \$ 2.06b) due to decline in basmati rice exports where prices are significantly higher than non-basmati rice exports.

Current challenges facing the industry include high pre-harvest losses, low seed quality and comparatively higher cost of inputs. Hike in gas prices, and consequently higher fertilizer costs, have raised wider sector concerns, even though producers stand to benefit from lower fuel prices. With such high costs, it is increasingly difficult for local producers to compete in a market where the rice prices are low. Lack of adequate branding has further contributed to weakness of Pakistani exports vis-à-vis other countries. Pakistan exports bulk of its rice with no proper packaging or processing and therefore loses out on export volumes due to competition from branded basmati rice exports from India. Over the years, Pakistan's exports to Iran have reduced significantly on account of sanctions imposed on the country. On the other hand, India has facilitated rice trade with Iran through currency swap agreement. Exports to Iran are again expected to pick pace with the recent lifting of ban on rice imports from Pakistan against the backdrop of gradual removal of international sanctions.

In order to facilitate exports, the Government has extended coverage of the Export Refinance Scheme to brown rice exports to all destinations, withdrawing the Letter of Credit requirement for such shipments. Rice Exporters Association of Pakistan (REAP) has also requested the Government to provide relief to rice exporters. Inventory planning and margin management along with focus on branding and marketing would be key driver for business stability and growth. Recent finalization of a \$400m rice export deal between Indonesia and Pakistan for export of one million tons of rice will facilitate in reducing inventory levels. Moreover, prices have showcased an uptick recently (by around 20%) due to improved demand from Middle East and Europe which bodes well for rice exporters.

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