

## Rice Sector

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Rice is an essential cereal grain for more than half of the world's total population. Up to 50% of dietary caloric supply for poor people in Asia is provided by rice and is, therefore, critical for food security. It is also increasingly known as an important food staple in Latin America and Africa. Almost all varieties of rice are grown for human consumption – which accounts for about 90% of production<sup>1</sup>. Lower quality rice variants and by-products can be sold for animal feed. Additionally, rice is used to manufacture spirits or starch. Approximately 480m Metric Tons (MT) of milled rice is produced annually. China and India alone account for almost 50% of global rice production and consumption.

Rice thrives in areas with heavy rainfall. The traditional method of cultivation involves flooding fields – termed as paddies, with water. This helps to repel weeds and pests. When harvested from the field, rice is in form of 'Paddy Rice' where seed is fully enveloped by the 'Rice Hull'. In first stage of milling, the hull is removed after being dried, yielding 'Brown Rice'. In second stage, outer brown layer called 'Rice Bran' is removed to produce 'White Rice'. Rice bran is composed of 'Rice Germ' and several sub layers. These contain over 60% of nutrients found in each seed<sup>2</sup>.

*Rice industry in Pakistan functions on market oriented principles. Government intervention and assistance in the sector has been limited. Price levels are determined by demand and supply forces.*

### INTERNATIONAL RICE MARKET

#### Production

World rice production was recorded lower at 472.2m MT (2015: 478.6m MT) in 2016. China produced the largest volume of rice amounting 145.8m MT (2015: 144.6m MT) in 2016. Decline in global production was largely on account of drought brought in by the El-Nino system, a climate cycle in the Pacific Ocean. The

weather pattern negatively impacted output of several countries including Thailand<sup>3</sup>, India and the United States of America (USA) as depicted in table 1.

Years	2015/16		2014/15	
	m MT	%	m MT	%
China	145.8	30.9%	144.6	30.2%
India	104.4	22.1%	105.5	22.0%
Indonesia	36.2	7.7%	35.6	7.4%
Thailand	15.8	3.3%	18.8	3.9%
Brazil	8.1	1.7%	8.5	1.8%
Pakistan	6.8	1.4%	6.9	1.4%
USA	6.1	1.3%	7.1	1.5%
Others	149.8	31.7%	151.8	31.7%
<b>Total</b>	<b>472.2</b>	<b>100.0%</b>	<b>478.6</b>	<b>100.0%</b>

Source: United States Department of Agriculture Foreign Agricultural Service

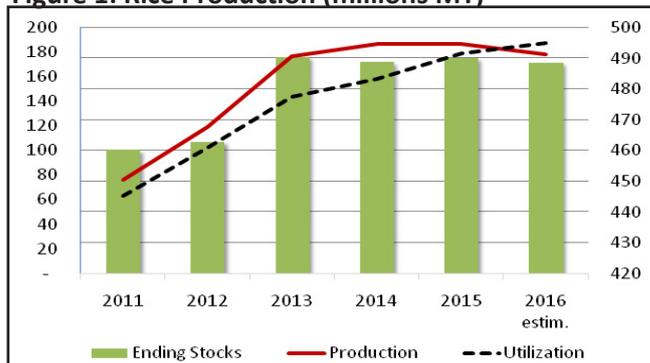
<sup>1</sup> Milled production

<sup>2</sup> [www.admani.com/Horse/Equine%20Library/Horse%20What%20is%20Rice%20Bran.htm](http://www.admani.com/Horse/Equine%20Library/Horse%20What%20is%20Rice%20Bran.htm)

<sup>3</sup> [www.independent.co.uk/news/world/asia/global-rice-crisis-el-nino-prices-increase-a7012526.html](http://www.independent.co.uk/news/world/asia/global-rice-crisis-el-nino-prices-increase-a7012526.html)

Changing demographics, urbanization and improved technology have led to the emergence of new major producers. In Africa, development of new hybrid seeds like WITA and New Rice for Africa (NERICA) has increased yields, facilitating farmers in rice cultivation instead of sorghum (a grain used for livestock feed and ethanol production). As a result, total rice production in West Africa alone has more than doubled from 7.1m tonnes in 2000 to 16.8m tonnes in 2014<sup>4</sup>.

**Figure 1: Rice Production (millions MT)**



Source: United States Department of Agriculture Foreign Agricultural Service

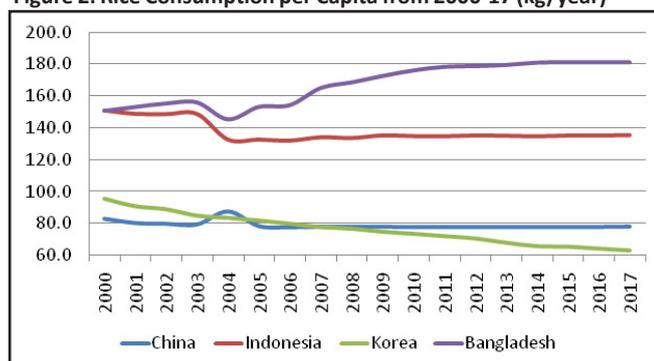
### Consumption

Years	2015/16		2014/15	
	m MT	%	m MT	%
China	144.9	30.6%	142.8	29.9%
India	93.7	19.8%	99.0	20.7%
Indonesia	37.7	8.0%	37.5	7.9%
Other East & South Asia	45.3	9.6%	46.5	9.7%
Africa	6.0	1.3%	6.3	1.3%
Latin America	9.0	1.9%	9.1	1.9%
Others	136.5	28.9%	136.5	28.6%
<b>Total</b>	<b>473.1</b>	<b>100.0%</b>	<b>477.7</b>	<b>100.0%</b>

In 2016, total world rice consumption decreased to 473.1m MT (2015: 477.7m MT) with lower demand from India. Around 90% of the world's rice continues to be consumed in Asia with 60% of demand emanating from China, India and Indonesia. Average consumption per capita was reported at 54.2kg (2015: 54.4kg) in 2016. Barring Pakistan, people in every Asian country eat more rice than the global average<sup>6</sup>. Since 2000, rice consumption per capita has fallen in China, Indonesia, South Korea and Singapore. Reasons for such a trend are increasing income levels, changing preferences and increasing urbanization leading to dietary diversification<sup>7</sup>. As a result, wealthy consumers are substituting rice with vegetables, fruit, meat, fish and dairy products.

In contrast, rising population is leading to higher demand in areas like Bangladesh and Africa. According to FAO, per capita rice consumption in Sub-Saharan Africa increased from 20.2kg to 26.6kg<sup>8</sup>. With population in the region growing steadily by 3% a year on average, the trend is likely to persist, going forward.

**Figure 2: Rice Consumption per Capita from 2000-17 (kg/year)**



Source: OECD-FAO Agricultural Outlook 2016-2025

### Trade

Total rice imports reduced to 42.0m MT (2015: 44.6m MT) in 2016. Imports of Sri Lanka and Bangladesh reduced to multi-year lows on account of imposition of higher duties on rice imports and

<sup>4</sup> Food and Agricultural Organization (FAO)

<sup>5</sup> Local marketing years

<sup>6</sup> [www.economist.com/news/international/21718508-west-africans-are-eating-more-asians-asians-are-eating-more--and](http://www.economist.com/news/international/21718508-west-africans-are-eating-more-asians-asians-are-eating-more--and)

<sup>7</sup> OECD-FAO Agricultural Outlook 2015-2024

<sup>8</sup> OECD-FAO Agricultural Outlook 2016-2025

declining domestic prices. While purchases of rice reduced in Asia, there was minor recovery in consignments to Africa. As a result, imports in Asian countries remained limited for a second successive year. Moreover, good harvests and appreciating domestic currencies also played a role in declining imports for Asia. In recent years, Middle East has emerged as a major rice market given that domestic production is constrained by lack of water.

Whereas imports market is fragmented, rice exports are dominated by a few players. Market share of leading rice exporters did not witness any major change in 2016. However, proportion of exports from India declined as many exporters were unable to meet recovery in global demand due to limited supplies. Moreover, weaker buying interest from traditional South Asian buyers also had a negative impact on the country's sales.

Government intervention in several rice producing countries including India, China, Vietnam and Indonesia is significant. Generally, this involves investments in agriculture and infrastructure which aid farmers in becoming more competitive. However, imposition of subsidies, tariffs and other support mechanisms for domestic producers nevertheless raise prices for consumers<sup>9</sup>.

India, Thailand and Vietnam were negatively impacted by drought in 2015/16. As a result, average prices followed an increasing trend in first half of 2016. However, higher harvests in India and Thailand along with weak demand led to a decline in prices from July to November 2016. Since then, prices have rebounded to boost local sales<sup>10</sup>.

### Domestic Market

	No. of firms
Less than 50 employees	76
50 to 100 employees	9
More than 100 employees	22
<b>Total</b>	<b>107</b>

*Source: Trademap, Dun & Bradstreet*

Unlike other countries, rice industry in Pakistan functions on market oriented principles. Government intervention and assistance in the sector has been limited. Price levels are determined by demand and supply forces. Investment largely emanates from individuals in the private sector while foreign direct investment is marginal. As of 2016, a total of 107 companies operate in the country with 76 firms having less than 50 employees. Majority of these are headquartered in Lahore, followed by Karachi.

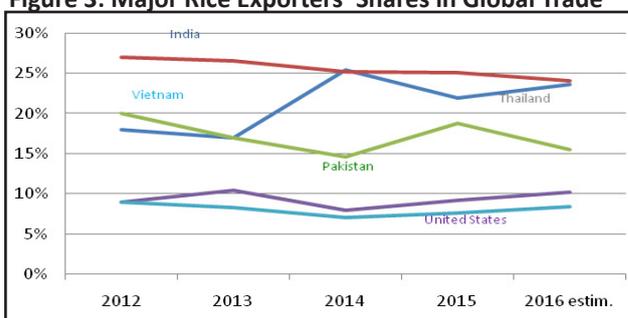
<sup>9</sup> <http://www.economist.com/news/leaders/21678224-subsidies-and-other-protections-rice-farmers-harm-some-worlds-poorest?zid=293&ah=e50f636873b42369614615ba3c16df4a>

<sup>10</sup> <https://www.dawn.com/news/1308667>

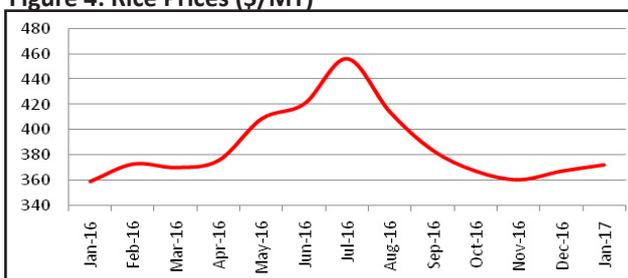
Years	2015/16		2014/15	
	m MT	%	m MT	%
Asia	19.7	46.9%	23.2	52.0%
Africa	14.1	33.6%	13.7	30.7%
America	5.3	12.6%	4.9	11.0%
Europe	2.4	5.7%	2.3	5.2%
Oceania	0.5	1.2%	0.5	1.1%
<b>Total</b>	<b>42.0</b>	<b>100.0%</b>	<b>44.6</b>	<b>100.0%</b>

*Source: FAO Rice Market Monitor 2016*

**Figure 3: Major Rice Exporters' Shares in Global Trade**

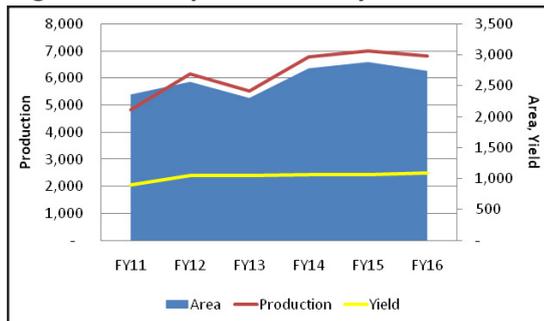


**Figure 4: Rice Prices (\$/MT)**

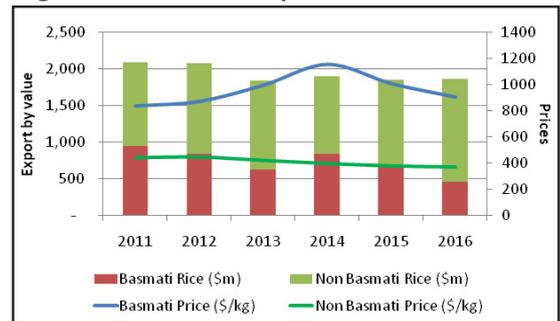


Rice crops are primarily grown in the fertile regions of Sindh and Punjab. According to provisional data compiled by Pakistan Bureau of Statistics, area under rice cultivation decreased to 2,748 thousand hectares (FY15: 2,891 thousand hectares) in FY16, thereby exhibiting a decline of 4.9%. This is attributed to propensity of farmers to substitute rice with fodder and maize in the backdrop of depressed prices along with rising cost of production. Furthermore, heavy rains across Punjab in July 2015 led to flooding of major rice nurseries<sup>11</sup>. As a result, rice production reduced to 6,811 thousand MT during same period; yield exhibited marginal increase to 2,479 kg/hectare.

**Figure 5: Area, production & yield in Pakistan**



**Figure 6: Year-wise exports of Pakistan**

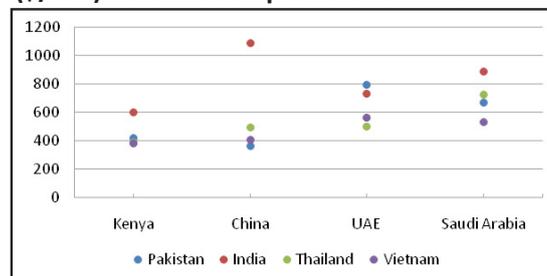


Source: Pakistan Bureau of Statistics and Rice Exporters Association of Pakistan

Primary export markets for Pakistani rice include the Middle East (Saudi Arabia, Oman, UAE) and Africa. As depicted in figure 11 above, total rice exports of Pakistan increased to \$1,860.3m (2015: \$1,848.7m) in 2016. Of these, a large proportion of non-Basmati rice is exported. Non-basmati exports continued to grow on the back of higher quantity sold. However, Basmati rice exports reduced by a notable 33.2% to \$455.2m (2015: \$681.5m) on account of lower volumes and subdued prices in 2016. In contrast to preceding year where decline in Basmati exports was largely manifested in downward trend in prices, volumetric decline was more pronounced in 2016.

Competing producers of Pakistan include Vietnam, Thailand and India. In recent years, the industry has been facing stiff competition from India. Between 2011 and 2015, Pakistan's exports to UAE declined from \$287.4m to \$135.1m while exports from India during same period remained sizeable at \$562.9m. India has been able to achieve comparative advantage on the back of lower cost of production, which enables it to sell at a discount to rates quoted by Pakistan (see Figure 12). Additionally, India's volumes are supported by higher quality of output. On the other hand, Pakistan's exports to Kenya, China and Afghanistan have depicted a rising trend.

**Figure 7: Pakistan's average export price (\$/ton) vis-à-vis competitors for 2015**



Source: Trademap

Over past several years, subdued exports and abundant rice supply from a large harvest in FY14 and FY15 has led to an increase in unsold stock of major industry players. Given low export prices and high input costs, margins and earnings of domestic producers came under pressure during FY16. With economic sanctions having been lifted, Iran is emerging as one of the largest markets for Basmati rice. However, despite signing of a free trade agreement between Pakistan and Iran, exports to the country have not picked up pace on account of reluctance of banks to open letters of credit for domestic firms. Recently, Iran has fixed its rice import price at \$850/tonne, which is not viable for Indian suppliers due to higher freight costs. Given close proximity to Iran, Pakistan enjoys lower transportation costs vis-à-vis its competitor, India. This may provide support to Pakistan's export position.

<sup>11</sup> <https://www.dawn.com/news/1196498>

Key constraints on sector's growth include limited research and development activities, post-harvest losses, lack of high yielding varieties, absence of government support and rising cost of inputs such as fertilizers and electricity. Competitiveness of Pakistan's exports is further weakened by inadequate branding and marketing vis-à-vis other countries. Meanwhile, in the backdrop of subsequent recovery in international prices, profitability of the sector is expected to exhibit improvement in FY17.

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