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Pakistan

Grain and Feed Annual

Pakistan: Grain and Feed Annual

Approved By:
David Williams

Prepared By:
Asmat Raza

Report Highlights:
Pakistan's soon-to-be harvested 2017/18 wheat crop is forecast at 25.2 million metric tons, marginally lower than a year ago. Dry conditions at planting, especially in rain fed areas countered generally ideal conditions during January and February. The government is likely to procure over 6 million metric tons of wheat which will boost public stock levels to around 10.5 million tons shortly after the start of the marketing year in a few months. Pakistan's MY 2016/17 wheat export estimate is revised down to 600,000 metric tons mainly due to lack of momentum in wheat flour exports to Afghanistan. MY 2016/17 rice exports are forecast at 4.0 million metric tons, down seven percent from the last year's figure of 4.3 million metric tons. MY 2017/2018 corn production is forecast at 5.8 million tons three percent higher than the current marketing year demand from the poultry industry and the increased use of hybrids spurs production.

Production:

Wheat is one of the main agricultural crops in Pakistan, with 80 percent of farmers growing it on an area of around nine million hectares (close to 40 percent of the country's total cultivated land) during the winter or "Rabi" season. This crop alone contributed about 10 percent of value added in agriculture and 2.0 percent of the country's gross domestic product (GDP) in 2016. Marketing year (MY) 2017/18 wheat production is forecast at 25.2 million metric tons, marginally lower than a year ago.

2107/18 wheat area decreased marginally due to dry conditions and poor soil moisture from September to December, particularly in areas where the crop is largely rain fed. Farmers also switched to sugar cane and corn in some areas. In spite of the decrease in area, a good harvest is expected due to a significant increase in the use of fertilizer and good rains and temperatures in January and February. The later rains could have some effect on yields due to lodging and flattening of the crop in certain areas, a development that is reflected in the current forecast.
Cumulative fertilizer off-take from October 2016 to January 2017 was 2.2 million tons up 14 percent compared to a year ago. Off-take of nitrogen, increased significantly by 19 per cent, while phosphate off-take increased by 4 per cent. MY 2016/17 production is adjusted upwards to 25.6 million metric tons, in accordance with latest government of Pakistan figures.

The government is likely to procure over 6 million metric tons of wheat which will boost public stock levels to around 10.5 million tons shortly after the start of the marketing year. The Government has maintained the wheat support price for the MY 2017/18 crop at the last year's level of Rs. 1,300 per 40 kilogram. Wheat production area by province is shown in Table 1.

Table 1: Wheat Area by Province MY 2016/17

Province	**Area (Million Hectares)**	**Percentage of Total Area**
Punjab	6.75	74.6
Sindh	1.17	12.9
KPK	0.74	8.2
Baluchistan	0.39	4.3
Total	9.05	100

About two-thirds of the country's water for irrigation is sourced from snow and glacier melts, with the balance supplied by seasonal monsoon rains. Stored water for irrigation is held mainly in two large reservoirs, Tarbela and Mangla, for use during the summer and during the Rabi/winter growing season. Since the completion of the nation's irrigation system in the 1970s, demand for water has increased by more than 50 percent, while storage capacity has decreased by about one-third due to silting. During the last two years supplies of irrigation water have been relatively better, but over the long term, Pakistan is likely to face water related challenges. These water challenges, if not addressed, could become a key factor affecting wheat production. Dated farming methods, reduced water availability, dam silting, and an increasing population in the catchment areas of the Chenab, Jhelum, and Indus rivers have reduced

the per capita water availability from 5,000 cubic meters in 1951 to less than 1,000 cubic liters in 2010. 85 percent of Pakistan's wheat production is dependent upon irrigated water.

The effect of water shortages is traditionally more severe in the Sindh province than in the Punjab region. Many parts of Sindh's ground water are alkaline and not fit for irrigation, thereby necessitating a greater reliance on canal water. In Punjab province, where extensive tube well irrigation is utilized to supplement the canal irrigation, the crop was generally considered to be in normal condition as of March 2017.

Consumption:

Wheat is Pakistan's dietary staple. Pakistan has a variety of traditional flat breads, often prepared in a traditional clay oven called a tandoor. The tandoori style of cooking is common throughout rural and urban Pakistan. Wheat flour currently contributes 72 percent of Pakistan's daily caloric intake with per capita wheat consumption of around 124 kg per year, one of the highest in the world. MY 2017/18 consumption is forecast at 24.5 million metric tons. As incomes increase and a stronger middle class emerges, consumers are gradually shifting towards more dairy, meat, and other higher-value food products in their diet. Over the long term, this shift to a more balanced diet has the potential to limit the pace of growth in wheat consumption. The government has decided to maintain the wheat support price at the current level. While Pakistan's wheat will continue to be significantly more expensive than in the international market, the decision to maintain the support price at the current level will provide some respite for consumers. During 2016, domestic wheat prices remained stable and price of the price wheat flour in December 2016 was almost the same as in December 2015. Out of the total demand of 24.5 million metric tons, only three percent will be used in the feed industry, and the remaining 97 percent will be used for planting and human consumption.

Pakistan's wheat milling industry is privately owned. There are about 1,000 flour mills in Pakistan, which meet the consumption needs of about 40 percent of the population, with the balance met by on-farm consumption. The disbursement of government-owned wheat to flour mills is managed in an effort to ensure that sufficient wheat is available throughout the year.

In urban areas and among affluent consumers, consumer preference is shifting from higher whole grain to lower extraction flour and traditional flat bread to western-style, loaf bread. Traditional home-ground flour is also losing favor to commercially milled flour. Specialized products like cereals suited to the changing life styles in the urban areas are also gaining demand.

Trade:

MY 2016/2017 wheat exports are revised down to 600,000 metric tons. Afghanistan has been the main wheat export market for Pakistan for decades mainly due to easy accessibility and traditional trade linkages between the two countries but Pakistan's wheat flour exports to Afghanistan are losing momentum mainly due to the higher prices of Pakistani wheat as compared to the international market and border tensions between the two countries. Pakistan's current year wheat exports to Afghanistan (in the form of flour) are estimated at 400,000 metric tons, with the balance going to the Gulf and Iran. Government-held stocks are above optimal levels heading into the 2017 harvest and the federal government has been considering different options to dispose of the unsold wheat stocks before the

arrival of the new crop but could not reach a viable solution. Given the present trend, Pakistan's MY 2017/18 wheat flour exports to Afghanistan are forecast to be 400,000 metric tons (wheat equivalent).

As global wheat prices have declined, Pakistan's high sales price for publicly-held stocks has resulted in limited export buyer interest. While Pakistan's wheat will continue to be quite expensive relative to the international market, the decision to maintain the procurement price at last year level should keep local wheat from becoming dearer still. The domestic market is insulated from imports by a 60 percent "regulatory duty." With a high tariff and high domestic prices, Pakistan continues to be isolated from the international wheat market. The tariff is well below Pakistan's bound tariff rate (the maximum tariff rate Pakistan can establish) for wheat of 150 percent. Consequently, Pakistan is not likely to import any significant quantity of wheat during MY 2017/18. Despite allowing exports of up to 900,000 metric tons of wheat with an export subsidy of $120 per ton, there has been no commercial interest from the export market.

Stocks:

MY 2016/17 ending stocks are estimated at around 4.5 million metric tons. Wheat is procured and maintained through provincial food departments and the federal agency known as the Pakistan Agricultural Storage and Services Corporation (PASSCO). In 2016, the GOP procured around 6.0 million tons of wheat from the local harvest. Over the past three years, the public sector wheat procurement has ranged between five to six million tons annually. Given the previous trend the government is likely to procure over 6 million metric tons of wheat which will boost public stock levels to around 10.5 million tons shortly after the start of the marketing year. The GOP has come under pressure from international and domestic sectors to end its wheat procurement operations and let the markets and the private sector handle the efficient allocation of resources. The Government continues to support the policy citing national and food security concerns. Still, stocks are projected to grow to record levels at the end of 2017/18, as consumption flattens and exports fall.

Policy:

Pakistan maintains a largely government controlled wheat marketing system and the government considers wheat as the key strategic commodity. The federal government sets a minimum guaranteed support price or procurement price and an issue price for wheat sold to flour mills. Through provincial food departments, the GOP procures wheat from farmers at the support price and then releases wheat to the flour mills at the government fixed issue price. The issue price is set at a rate that captures much of the cost of buying and storing the wheat, but there are implicit costs that are not fully captured. Wheat prices and the movement of wheat are controlled at the provincial and district levels. Grain stocks are procured and maintained by the provinces. The system aims to protect farmers from price fluctuations and to ensure a minimum return during cyclical post-harvest low prices.

Farmers in Pakistan retain about 60 percent of their wheat production for seed, and village and household food consumption. For wheat that is marketed, the government is the main buyer of farmers' wheat, with actual volumes of government procurement often reaching 25 to 30 percent of total production, driven by both food security and market intervention objectives. The remaining 15 percent of the harvest is purchased by the private sector. While food security is an important concern in

Pakistan, high volumes of state wheat procurement make it harder to attract private sector trade and investment in the postharvest supply chain.

Production, Supply and Demand Data Statistics:

Wheat	**2015/2016**		**2016/2017**		**2017/2018**	
Market Begin Year	**May 2015**		**May 2016**		**May 2017**	
Pakistan	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Area Harvested	9200	9200	9230	9200	0	9050
Beginning Stocks	3720	3720	3829	3920	0	4520
Production	25100	25100	25300	25600	0	25200
MY Imports	9	100	25	100	0	100
TY Imports	9	100	25	100	0	100
TY Imp. from U.S.	7	0	0	0	0	0
Total Supply	28829	28920	29154	29620	0	29820
MY Exports	600	600	900	600	0	600
TY Exports	600	600	900	600	0	600
Feed and Residual	800	800	800	800	0	800
FSI Consumption	23600	23600	23700	23700	0	23700
Total Consumption	24400	24400	24500	24500	0	24500
Ending Stocks	3829	3920	3754	4520	0	4720
Total Distribution	28829	28920	29154	29620	0	29820
Yield	2.72	2.72	2.74	2.78		2.78
(1000 HA) ,(1000 MT)						

Rice, Milled

Production:

Rice is Pakistan's third largest crop in terms of area sown, after wheat and cotton. About 11 percent of Pakistan's total agricultural area is under rice during the summer or "Kharif" season. Pakistan is a leading producer and exporter of Basmati and IRRI rice (white long grain rice). Rice ranks second among the staple food grain crops in Pakistan and exports are a major source of foreign exchange earnings. Pakistan grows a relatively high quality of rice to fulfill domestic and export demand. Rice accounts for 3.1 percent of the value added in agriculture and 0.6 percent of gross domestic product. Pakistan has two major rice-producing provinces, namely Punjab and Sindh. Both provinces account for more than 88 percent of total rice production. Punjab, due to its agro-climatic and soil conditions, is producing 100 percent of the Basmati rice in the country. Pakistan's "Kalar" bowl area, a local term

that refers to a type of soil suitable for Basmati production, is famous for producing Basmati rice and is located between the Ravi and Chenab rivers in Punjab. IRRI rice is grown in both Punjab and Sindh.

MY 2017/18 rice production is forecast at 6.9 million metric tons, 1.5 percent above the current year's updated production. Area is expected to increase marginally from the revised official 2016/17 area. MY 2016/17 production is adjusted downwards to 6.8 million tons, in accordance with Government of Pakistan figures. Production and yields during the last three years have been good with little fluctuation. This is due in part to the deposit of a nutrient rich top layer of soil as a result of several floods in recent years.

Rice in Pakistan is a monsoon crop but the introduction of hybrid varieties in recent years has influenced the timing of sowing and transplanting. Hybrid varieties are sown as early as March and April instead of June and July. However, sowing timing is heavily influenced by the extent and spread of monsoon rains, and the availability of underground and irrigated water. Irrigation water is mostly sourced from the runoff of the Himalayan glacier melt into the Indus river basin, so temperatures during the months of May and June are critical in determining the season's water availability.

Rice Growing areas of Pakistan are broadly classified into following four zones;

Zone I	Northern high mountainous areas of Khyber Pakhtunkhwa (Swat and Khagan) with sub-humid climate, average rainfall of 750-1000 mm
Zone II	Lies between the Ravi and Chenab rivers in the central Punjab. Sub-humid, sub-tropical climate with average rainfall of 400-700mm. This is the famous premium zone and Basmati rice is exclusively produced in this zone along the Kalar tract consisting of Sailkot, Sheikhupura, Narowal, Gujranwala, Hafizabad and Lahore Districts
Zone III	West bank of Indus river in upper Sindh and Balochistan. Larkana, Jacobabad (Sindh), Nasirabad and Jaffarabad (Balochistan). High temperature and sub-tropical climate with average rainfall of 100 mm make it best suited for long grain rice.
Zone IV	Indus delta basin in Lower Sindh (Badin and Thatta Districts). Its climate is arid tropical and is suited for coarse varieties.

Consumption:

MY 2017/18 consumption is forecast at 2.9 million tons at par with the current marketing year. Unlike many other Asian countries, rice is not considered a staple food crop in Pakistan. Traditionally, 40 to 45 percent of the crop is used for local consumption, with the balance exported. Pakistanis, in general, prefer the higher priced Basmati rice if they can afford it, if not they consume long grain IRRI rice, but wheat is the favored staple. In 2016, domestic rice prices displayed an upward trend and the price of rice in December 2016 was nine percent higher than in December 2015. According to trade sources an estimated 200,000 tons of 40-100 percent broken rice is used in poultry and animal feed annually.

Trade:

Pakistan has so far exported 1.22 million metric tons as compared to 1.72 million metric tons during the same period a year ago. MY 2016/17 rice exports are projected at 4.0 million metric tons down seven

percent from the last year's figure of 4.3 million metric tons. Pakistan's rice exports are facing stiff competition from Vietnam and Thailand. Currently the exporters from these countries are quoting prices in the range of $355-360 per ton for 5% broken rice, while prices for Pakistani rice in the same category is hovering around $380 FOB Karachi. Pakistan's rice exports during the current marketing year are provided below in Table 2, this data may be subject to eventual revision. It may be too early to tell if higher prices in Pakistan are the result of "hoarding" or market manipulation, a common, though difficult to prove refrain, or something more fundamental with the supply and demand situation. Time will tell, though exports are expected to be somewhat lower. The domestic market is protected from imports by a 10 percent tariff and strong preferences for domestic rice.

Table 2: Pakistan Rice Exports MY 2016/17 (Nov/October)

Months	**MY 15/16**	**MY 16/17**
November	547,286	438,399
December	475,346	391,161
January	390,323	390,690
Total	**1,724,690**	**1,220,250**

Source: Pakistan Bureau of Statistics

Rice is a major Pakistani export to the United States. Out of $104 million in Pakistani agricultural products exports to the United States in 2016, rice exports comprised $26.7 million (26 percent of the total).

Stocks:

MY 2016/17 and MY 2017/18 ending stocks are forecast at steady 800,000 tons.

Policy: Rice trade in Pakistan is carried out by the private sector with little or no intervention from the government. Since the publicly-run Rice Export Corporation of Pakistan was disbanded 20 years ago, Pakistan's rice traders have responded well to market liberalization and over the years have become major players in world rice trading. The milling industry made significant investments in state-of-the-art processing machinery, but Pakistan exports most of its rice in bulk with no modern packaging and branding. Export companies could be doing more to develop brands and a more significant presence in foreign markets. However, the export industry is comprised of a large number of relatively small firms that are often family-run and accustomed to traditional trading practices. However, that is changing and Pakistan's rice exporters are becoming increasingly active advocates for their industry and their trade interests. With time, the industry is expected to adopt more strategic and brand-based approaches to rice exporting.

Production, Supply and Demand Data Statistics:

Rice, Milled	2015/2016		2016/2017		2017/2018	
Market Begin Year	Nov 2015		Nov 2016		Nov 2017	
Pakistan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	2740	2740	2660	2687	0	2700

Beginning Stocks	1209	1209	1019	909	0	809
Milled Production	6800	6800	6640	6800	0	6900
Rough Production	10201	10201	9961	10201	0	10351
Milling Rate (.9999)	6666	6666	6666	6666	0	6666
MY Imports	10	0	10	0	0	0
TY Imports	10	0	10	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	8019	8009	7669	7709	0	7709
MY Exports	4300	4300	4200	4000	0	4000
TY Exports	4300	4300	4200	4000	0	4000
Consumption and Residual	2700	2800	2750	2900	0	2900
Ending Stocks	1019	909	719	809	0	809
Total Distribution	8019	8009	7669	7709	0	7709
Yield	3.72	3.72	3.74	3.79		3.83
(1000 HA) ,(1000 MT)						

Corn

Production:

Corn is one of the major crops in Pakistan and is the third most important cereal after wheat and rice. It accounts for 8.5 percent of the total cereal cropped area, 2.2 percent to the value added in agriculture and 0.4 percent to GDP. The cultivation of corn and its multiple uses for domestic, commercial and industrial purposes plays a critical economic role in Pakistan by generating income and employment in its entire value chain. Though corn is mostly known as a Rabi (winter) crop it is normally cultivated twice a year in Punjab and once a year in Khyber Pakhtunkhwa (KPK). The first cultivation season is known as spring (winter) season that normally starts in the middle of December in Punjab. The summer season begins in September and lasts till the start of December in both Punjab and KPK. Yields are lower in Punjab due to the high temperatures, but conditions in KPK are optimal at this time of year.

MY 2017/2018 production is forecast at 5.8 million tons three percent higher than the current marketing year, reflecting an expected increase in area and sustained demand from industry. At present around forty percent of corn area is under hybrid cultivation while its share in production is about 70 percent. It should also be noted that the corn crop grown on around 50,000 hectares is used for making silage for livestock.

Historical Perspective:

Corn production in Pakistan has increased from 1.76 million tons in 2001-02 to 4.94 million tons during 2013-14 (Table 3). Yields have also improved steadily due to the introduction and adaptation of hybrid varieties. The upward trend in production and yields is likely to continue in the years to come, mainly due to the further adaptation of high yielding varieties and hybrids.

Table 3 Trends in Area Production and Yield of Maize in Pakistan

Years	Area (000 Ha)	Production (000 Tons)	Yield (Kg/ha)
2001-02	941.6	1,664.4	1,768
2002-03	935.5	1,737.1	1,857
2003-04	947.1	1,897.4	2,003
2004-05	981.8	2,797.0	2,849
2005-06	1,042.0	3,109.6	2,984
2006-07	1,016.9	3,088.4	3,037
2007-08	1,051.7	3,604.7	3,427
2008-09	1,052.1	3,593.0	3,415
2009-10	935.1	3,261.5	3,488
2010-11	974.2	3,707.0	3,805
2011-12	1,087.3	4,338.3	3,990
2012-13	1,059.05	4,220.1	3,984
2013-14	1,168.5	4,944.2	4,231
2014-15	1,142.6	4,937.1	4,323

Source: Agricultural Statistics of Pakistan

Corn Growing Areas

The bulk (99%) of the total production comes from two major provinces, KPK, accounting for 51 percent of the total area and 30 percent of total production and Punjab contributing 48 percent area, with 69 percent of total corn production. The provinces of Sindh and Baluchistan produce a very small quantity of corn. The production and yield in Punjab is higher than KPK mainly due to the use of hybrid seed and adoption of better agronomic practices. In Punjab the cultivation of corn is concentrated in Sahiwal, Arifwala, Pakpattan, Chiniot, Vehari, Lahore and Kasur areas. As for KPK, corn cultivation is scattered due to low land holdings. Approximately 65 percent of the maize in Pakistan has access to irrigation; the remainder is farmed under rain-fed conditions.

Consumption:

The poultry industry is the main buyer of corn, utilizing almost 65 percent of the production in poultry feed. Wet milling consumes about 15 percent and 10 percent is used to make dairy feed concentrate while the remaining production is used for human consumption in the form of bread made from the flour and also for seed purposes.

The poultry sector is one of the most modern and vibrant segments of Pakistani agriculture. There are approximately 150 feed mills for poultry feed in the country with an installed capacity of nine million metric tons of feed. Corn plays a growing role in the production of dairy feed concentrates. Wet milling industry use corn to produce starch for the textile industry and also to make various food products.

Trade:

The Government of Pakistan imposes a thirty percent regulatory duty and ten percent customs duty on the import of corn, shielding producers from imports. The Pakistan Poultry Association has reportedly sought a tariff reduction, but without results thus far. The duty has resulted in no corn imports, in spite of the fact that Pakistan's domestic corn prices are much higher than international prices. The domestic price of corn at present is around $240 per ton, while according to trade sources the price of imported corn C&F Karachi stands at around $185 per ton. The feed industry is experimenting with sorghum and distiller dried grains as an alternative to corn, both attract lower tariffs and taxes than can corn.

Stocks:

MY 2017/18 and MY 2016/17 ending stocks are estimated at around 700,000 and 800,000 tons respectively. Most of the stocks are held by the feed mills and wet milling industry.

Policy:

Corn trade in Pakistan is carried out by the private sector with little or no intervention from the government. The government does not fix the procurement price for the commodity and is not involved in its procurement and marketing. Government efforts in corn are limited to some research and extension activities to increase the productivity of the crop.

The growth in corn has been led by the demand in the poultry and dairy feed sectors. Realizing the potential for immense growth, seed companies have led the way towards introducing hybrid corn varieties in Pakistan. The sales of corn hybrid seed vary according to seasons as 60 percent of total sales are realized in spring and 40 percent in autumn. The seed companies provide a comprehensive package to farmers including technology transfer and extension services. The field teams of the private seed companies have been pivotal in establishing corn as one of the rapidly growing grain crops in Pakistan. Corn farmers benefit from fertilizer, water, and power subsidies, a common fillip for most farmers in Pakistan.

Production, Supply and Demand Data Statistics:

Corn	**2015/2016**		**2016/2017**		**2017/2018**	
Market Begin Year	**Jul 2015**		**Jul 2016**		**Jul 2017**	
Pakistan	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Area Harvested	1148	1210	1150	1300	0	1350
Beginning Stocks	1494	1494	1318	994	0	794
Production	5000	5300	5200	5600	0	5800
MY Imports	24	0	20	0	0	0
TY Imports	21	0	20	0	0	0
TY Imp. from	5	0	0	0	0	0

U.S.						
Total Supply	6518	6794	6538	6594	0	6594
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	3400	4300	3700	4300	0	4400
FSI Consumption	1800	1500	1800	1500	0	1500
Total Consumption	5200	5800	5500	5800	0	5900
Ending Stocks	1318	994	1038	794	0	694
Total Distribution	6518	6794	6538	6594	0	6594
Yield	4.35	4.38	4.52	4.30		4.30
(1000 HA) ,(1000 MT)						