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Report Highlights:

Marketing Year (MY)2021/22 wheat production is forecast at 26.0 million metric tons (MMT), three percent higher than last year's wheat production of 25.2 MMT. Pakistan's MY 2020/21 wheat imports are now estimated at 3.4 MMT to help rebuild the country's wheat stocks, with the forecast for MY 2021/22 imports much lower at 1.0 MMT, reflecting anticipated larger stocks over the next year. While wheat production struggles to rebound, rice and corn production continues to increase. MY 2021/22 rice production and exports are forecast at a record 8.3 MMT and 4.5 MMT, respectively, due to optimum production conditions and larger, more affordable supplies available for export. MY 2021/2022 corn production is forecast at a record 7.9 MMT, due to the increasing adoption of better yielding hybrid seed – a trend which is likely to continue in the short-term.

Wheat:

Production:

Wheat is Pakistan's largest crop, in terms of area sown and is grown under different agro-ecological zones. In irrigated areas wheat is planted after cotton, rice, and sugarcane, while in rainfed areas wheat is grown at the same time as maize and millet. Sowing of wheat takes place from October to December and harvests from the month of March to May. Wheat is one of the four main agricultural crops in Pakistan along with rice, cotton, and sugarcane. Approximately 80 percent of farmers grow it on an area of around 9 million hectares (close to 40 percent of the country's total cultivated land) during the winter or "Rabi" season.

Marketing year (MY) (May/April) 2021/22 wheat production is forecast at 26.0 million metric tons (MMT), three percent higher than last year's wheat production of 25.2 MMT, mainly due to an increase in area and urea fertilizer offtake, and conducive weather conditions. The crop will be harvested in April 2021. Wheat planting area is four percent higher than last year. Overall urea fertilizer offtake registered a seventeen percent increase over last year. Weather conditions have generally been favorable with appropriate rainfall during December and January.

The incidence of wheat rust has been limited this year with only a sporadic presence in the wheat crop. It should be noted that during last two years, the wheat rust fungus was resurfacing and causing greater losses to the wheat crop. This year, the Government of Pakistan (GoP) made a policy decision to encourage the cultivation of wheat rust resistant varieties. Weather during January and February was also not conducive for spread of the fungus.

There are no reports of locust attacks across Pakistan so far this year. Although locusts remain a potential threat and can resurface during the summer and affect other crops, this year's wheat crop will stay largely unaffected from locust attacks.

The government increased the wheat support price for the MY 2021/22 crop to Rupees (Rs.) 1800 per 40 kilograms ($281 per metric ton) from last year's level of Rs.1400 per 40 kilograms ($219 per metric ton). Wheat production area by province is shown in Table 1.

Table 1: Wheat Area by Province MY 2021/222

Province	Area (Million Hectares)	Percentage of Total Area
Punjab	6.75	73.3
Sindh	1.22	13.3
KPK	0.78	8.5
Baluchistan	0.45	4.9
Total	9.2	100

Challenges Facing Pakistan Wheat Production

Climate Change

Pakistan is among those countries which are most vulnerable to the effects of climate change and will be facing some major challenges. A concerted effort by the government and civil society at all levels is required to mitigate these threats. In the last 50 years, the annual mean temperature in Pakistan has increased by roughly 0.5°C (0.9° F). The number of heat wave days per year has increased nearly fivefold in the last 30 years. Annual precipitation has historically shown high variability but has slightly increased in the last 50 years.

The cumulative effects of these changes are altering the settled weather patterns affecting the productivity of crops, especially wheat. During the last two years, the wheat crop has been adversely affected by a rise in temperature during March and untimely rains and storms during the months of April and May, when the wheat crop is harvested. This shifting weather pattern is a new challenge which needs to be addressed collectively by government policy makers, researchers, and farmers.

Lack of Investment in Research

The emerging problems in wheat production require a consistent investment by the government in wheat research to develop wheat varieties that are more adaptable to the shifting weather patterns brought on by climate change (e.g., an increase in temperature, unpredictable rainfall). The present level of funding barely covers routine research trials. To address the new challenges, wheat scientists need training, international exposure, increased linkages with international partners and, above all, increased investment in research.

Availability of Quality Seed

Almost 70 percent of the farmers in Pakistan use homegrown seed for wheat cultivation, which adversely impacts crop productivity. Pakistan's seed sector has been chronically neglected. For example, the lack of a comprehensive regulatory framework is hindering investment from the private sector; nor does the government have the resources to develop and produce improved seed varieties in the required quantity. The issues of wheat productivity can only be addressed if farmers can have reliable access to quality seed.

Water Shortages

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 Kharif/summer and the Rabi/winter growing seasons. 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. These water supply challenges, if not addressed, could affect wheat production in the future. Farmers typically supplement surface irrigation by pumping ground water. About 85 percent of Pakistan's wheat production is dependent upon irrigated water. Most row crops in Pakistan use flood irrigation.

The effect of water shortages is traditionally more severe in the Sindh province than in Punjab. Much of Sindh's ground water is alkaline and not fit for irrigation, thereby, necessitating a greater reliance on flood irrigation with canal water.

Consumption:

Wheat is Pakistan's main 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 kilograms (kg) per year, one of the highest in the world. MY 2020/21 consumption is estimated at 25.8 MMT while MY 2021/22 consumption is forecast at 26.3 MMT. 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. In 2020, domestic wheat prices increased by seven percent as compared to 2019, mainly due to an increase in the government wheat procurement price and tight stock positions. Out of the total demand of 26.3 MMT, only five percent will be used in the feed industry, and the remaining 95 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.

Wheat consumption patterns have been largely unchanged although in some affluent urban areas, consumer preferences are gradually 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 lifestyles in the urban areas are also gaining interest among consumers.

Trade:

Pakistan's MY 2020/21 wheat imports are now estimated at 3.4 MMT. MY 2021/22 wheat imports are forecast at 1.0 MMT. However, the actual volume of wheat imports during MY 2021/22 will ultimately depend on the final production figure of the MY 2021/22 wheat crop. The bulk of these imports are in the government sector and almost all wheat imports during the current marketing year are being sourced from Russia and Ukraine. The government's June 2020 decision to suspend the 60 percent duty on wheat imports is still in effect. Consequently, all wheat imports are currently entering duty free. This decision is likely to remain in place until the government is satisfied that domestic wheat production will be sufficient to meet the country's demand.

In the past year, Pakistan has undergone a historic shift from being an exporter of wheat to a major importer of wheat. The main reason for this shift is that Pakistan's wheat production is not keeping pace with the increase in population. It should be noted that during MY 2018/19, when Pakistan exported around 2 MMT of wheat, the beginning stocks were 4.7 MMT. At that time, managing such large stocks was a challenge. The government wheat procurement operation is financed by banks, which charge a markup against their investment. To reduce the cost of maintaining such large stocks, a policy decision was made during MY 2018/19 to reduce the stocks to around 2 MMT, thereby enabling Pakistan to export 2 MMT of wheat. At that time, the government was confident that the country's future wheat production would meet its consumption requirements in the coming years. However, that did not happen, and subsequent lowered wheat supplies compelled the government to drop the 60 percent duty and initiate the importation of wheat. An additional factor contributing to the current marketing year's record imports is the government's continued push to rebuild its strategic reserves in the wake of pandemic-related spikes in demand and to offset the threat of potential productions losses from locust attacks. Pakistan needs a coordinated approach and sustained policy to determine the size of its intended wheat stocks. If the present ad hoc approach is continued, the country is likely to face uncertain market conditions which will put stress on the supply and demand situation.

The country's wheat production is facing serious challenges elaborated in the production section. Pakistan is likely to remain a wheat importer unless sustainable policy interventions are undertaken to address these emerging challenges from climate change, the lack of investment in wheat research, and the lack of quality seed.

Pakistan's MY 2020/21 and 2021/22 wheat exports are estimated to be around 300,000 MT. The exports represent the cross-border trade between Pakistan and Afghanistan. Afghanistan has traditionally been a huge market for Pakistan but due to depleting stocks and a rise in prices, Pakistan is

gradually losing the Afghan wheat market to India, and the Central Asian Republics. Other export markets for Pakistani wheat include the Gulf Region, Bangladesh, and Sri Lanka.

Stocks:

The GoP's policy regarding the size of its strategic wheat stocks has not been consistent during the last few years. Historically, Pakistan had maintained huge wheat stocks due to food security considerations. However, over the years, the cost of maintaining large stocks started becoming a financial burden on the government. Consequently, a policy decision was made during MY 2018/19 to reduce the stocks to around 2 MMT. This policy decision has since been reversed, due to unexpected demand stressors like the pandemic and the threat of potential supply shocks like locust infestations. Pakistan is now in the process of rebuilding its wheat stocks to maintain a larger stock reserve.

MY 2020/21 and MY 2021/22 ending stocks are estimated at around 3.8 and 4.2 MMT, respectively. Domestic wheat is procured and maintained through provincial food departments and through the federal agency known as the Pakistan Agricultural Storage and Services Corporation (PASSCO). Government purchases give a guaranteed return to the farmers who are able to sell to the government and provide a strong incentive for farmers to continue producing wheat during the Rabi (winter season), thereby, supporting Pakistan's continued goal of wheat self-sufficiency.

Pakistan's 2021 domestic wheat procurement is expected to be around 6.0 MMT, boosting public stock levels to over 9 MMT shortly after the start of the marketing year. The GoP has come under both international and domestic pressure to end its wheat procurement operations and let the markets and the private sector handle the efficient allocation of resources.

Policy:

Pakistan maintains a largely government-controlled wheat marketing system and the government considers wheat as the key strategic commodity for its food security. The federal government sets a minimum guaranteed support or procurement price and an issue – or fixed -- 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 fixed government price. The issue price is set at a rate that captures some of the cost of buying and storing the wheat, but there are significant 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.

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, for use in the milling industry and bakeries. 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 Distribution Data Statistics:

Wheat	**2019/2020**		**2020/2021**		**2021/2022**	
Market Year Begins	**May 2019**		**May 2020**		**May 2021**	
Pakistan	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Area Harvested (1000 HA)	8798	8798	8810	8810	0	9200
Beginning Stocks (1000 MT)	2583	2583	1292	1292	0	3792
Production (1000 MT)	24300	24300	25200	25200	0	26000
MY Imports (1000 MT)	1	1	3400	3400	0	1000
TY Imports (1000 MT)	1	1	3600	3600	0	900
TY Imp. from U.S. (1000 MT)	0	0	0	0	0	0
Total Supply (1000 MT)	26884	26884	29892	29892	0	30792
MY Exports (1000 MT)	392	392	300	300	0	300
TY Exports (1000 MT)	173	173	300	300	0	300
Feed and Residual (1000 MT)	1000	1000	1000	1000	0	1100
FSI Consumption (1000	24200	24200	24800	24800	0	25200

Wheat	2019/2020		2020/2021		2021/2022	
Market Year Begins	May 2019		May 2020		May 2021	
Pakistan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
MT)						
Total Consumption (1000 MT)	25200	25200	25800	25800	0	26300
Ending Stocks (1000 MT)	1292	1292	3792	3792	0	4192
Total Distribution (1000 MT)	26884	26884	29892	29892	0	30792
Yield (MT/HA)	2.762	2.762	2.8604	2.8604	0	2.8261
(1000 HA) ,(1000 MT) ,(MT/HA) MY = Marketing Year, begins with the month listed at the top of each column TY = Trade Year, which for wheat begins in July for all countries.TY 2021/2022 = July 2021 - June 2022						

Rice, Milled:

Production:

Rice is Pakistan's third largest crop, after wheat and cotton, in terms of area sown. About 10 percent of Pakistan's total agricultural area is under rice production 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 has two major rice-producing provinces, namely Punjab and Sindh. Both provinces account for nearly 90 percent of total rice production. Punjab, due to its distinct agro-climatic and soil conditions, produces 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. This area is located in the Punjab region in the Himalayan foothills, while the majority of the other varieties,

including IRRI-6, are cultivated in Sindh. The Sindh region is further bifurcated into two parts due to differing land characteristics and water availability. IRRI rice is grown in both Punjab and Sindh.

Rice Production at Record Levels

The MY 2020/21 (November/October) production estimate is revised upward to a record 8.2 MMT, in accordance with the latest government's data. The major reasons for this record production include an increase in planted area, an optimum monsoon season and increased use of inputs. Another key reason is the wide and continued adaptation of hybrid long grain non-basmati varieties. The shift of farmers away from cultivating cotton to cultivating rice during the Kharif/summer season is also significant and is attributable to the multiple problems (e.g., low quality seed, pest problems, etc.) and lower profitability associated with Pakistan's cotton crop.

The MY 2021/22 rice production is forecast at 8.3 MMT, reflecting expectations of continued increases in area planted and high yields. During the last few years, long grain hybrids have gained increasing acceptance among farmers. Hybrids have done especially well in Sindh where they now account for 75 percent of planting, up from 35 percent just a few years ago. Better agronomic practices, more aggressive spraying, and disease-resistant seed varieties have helped reduce the incidence of bacterial leaf blight in recent years. In addition, more frequent flooding since 2010 has deposited nutrient rich soil in key growing areas, helping to further boost yields. The rice growing areas of Pakistan are broadly classified into the four zones shown in Table 2.

Table 2: Rice Growing Zones of Pakistan

Zone I 10 % of total rice production.	Northern high mountainous areas of Khyber Pakhtunkhwa (Swat and Khagan) with sub-humid climate, average rainfall of 750-1000 millimeters (mm).
Zone II 55%	Lies between the Ravi and Chenab rivers in the central Punjab. Sub-humid, sub-tropical climate with average rainfall of 400-700 mm. 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 25%	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 10 %	Indus delta basin in Lower Sindh (Badin and Thatta Districts). Climate is arid tropical and is suited for coarse varieties.

Production Challenges and Outlook

Despite the outbreak of the Covid-19 pandemic, there has been little disruption to the planting, production, and processing of rice. Although Pakistan's rice sector is performing well and has consistently grown with time, growth is still well below its potential, due to following factors:

- Production of rice is confined to flood-irrigated fields, while no sustainable solutions to guarantee water security have been developed.
- Lack of technological innovations and low-quality seeds, which has resulted in lower crop yields, especially of basmati, in comparison to other countries.
- High cost of inputs (e.g., fertilizers) discourages small farmers to apply inputs.
- Threat of production losses from locust invasions

Sustainable policy interventions are required to address these challenges facing the rice sector, so that Pakistan can realize its potential in further developing this industry and boosting its foreign exchange earnings.

Consumption:

MY 2020/21 consumption is revised upward to 3.5 MMT while MY 2021/22 consumption is forecast at 3.7 MMT. Increased consumption levels reflect the increase in population.

Pakistan's per capita rice consumption of 18 kilograms per annum is among the lowest in the region. Unlike many other Asian countries, rice is not yet considered to be a mainstay of the Pakistani diet but with the increase in production, consumption is also increasing, and rice dishes are becoming an integral part of buffets and meals served in ceremonies.

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 and, if not, they opt for long grain IRRI rice, but wheat remains the favored grain staple. According to industry sources, an estimated 200,000 MT of 40-100 percent broken rice is used in poultry and animal feed annually.

Trade:

Pakistan's MY 2020/21 and 2021/2022 rice exports are projected at 4.3 and 4.5 MMT, respectively. Pakistan, in the current marketing year, has so far exported 1.242 MMT of rice compared to 1.208 MMT during the same period a year ago. Pakistan's rice exports during the current marketing year are provided below in Table 3. This data may be subject to revisions. Pakistan imposes a tariff of 10 percent on rice imports.

Table 3: Pakistan Rice Exports (in metric tons)

Months	MY 2019/20	MY 20/21
November	440,488	458,104
December	403,923	459,714
January	364,169	324,254
Total	**1,208,580**	**1,242,072**

Source: Pakistan Bureau of Statistics

Pakistan is one of the world's major rice exporters, shipping more than 4 MMT annually to East Africa, Europe, the Middle East, and China. Pakistan has one harvest a year: the non-basmati long grain harvest, which usually begins in September; and the basmati harvest, which usually begins in November. The country's non-basmati long grain crop is generally the first from the major Asian countries to enter the international market, which provides exporters the opportunity to conclude business at better prices.

Amid the COVID-19 pandemic, many rice-exporting countries suspended their exports in favor of bolstering their domestic supply for food security purposes. This decision indirectly benefitted Pakistan, where rice exports were not hindered, except for the slowdown in operational and port activities. Pakistan's rice exports benefited from devaluation of its currency during the last two years. Although production increases resulted in more volume available for export and currency devaluation stimulated exports, the industry has not been able to fully capitalize on these export opportunities, which has resulted in higher stocks.

Although rice is the second largest exportable crop of the country after cotton, the country has historically underutilized its potential to earn foreign exchange reserves from its rice exports. Pakistan's basmati rice is considered a high-grade premium quality product in the international market, particularly in the European Union (EU) and the Middle East. The price of basmati rice is almost double the price of non-basmati rice. Still, non-basmati rice forms a major portion of Pakistan's total exports, accounting for around 77 percent of total rice exports. Pakistan's basmati exports are currently hovering around 1 MMT while the rest of the exports -- around 3.3MMT -- are non-basmati.

Pakistan has not been successful in significantly enhancing the share of its basmati rice exports. The main reason is that basmati rice is largely consumed locally, and exporters have not done the sustained work needed to market the brand overseas and create foreign demand. Moreover, Pakistan competes with India in the international market and India has strategically branded itself well internationally. While there has been growth in Pakistan's rice industry, significant potential still exists to brand Pakistani basmati rice in foreign markets.

Rice Export Challenges

Most of the exported rice is mainly offloaded after December, after the harvesting season. On the receivable front, all rice exports are secured against either Letter of Credit (LC) or Cash Against Document (CAD).

Basmati

- Stiff competition from Indian basmati exports in the EU and Middle East region.
- India's strong position in the international market, as both the largest producer (70 percent of world production) and largest exporter of basmati rice
- India's aggressive efforts to obtain Geographical Indication (GI) tag from the EU.
- The probability of removal of Iran's restrictions on Indian rice imports pose a challenge to Pakistan's basmati rice exports.
- Inability of Pakistan to increase its global market share of basmati rice, due to production challenges and increasing domestic consumption.

Non-Basmati

Pakistan's non-basmati rice is largely exported to the African countries, where it faces competition mainly from India in terms of crop availability and pricing. Although medium-term market fundamentals remain sound, the following business risks have emerged lately:

- Pandemic-induced panic buying, and stockpiling has caused a temporary lull in demand.
- Higher production in India makes it more price competitive in the regional market thus hampering demand for Pakistan rice.
- Low quality seeds produce less exportable quality rice.

COVID 19 Impact

Rising input prices and a decline in income hampered farmers's ability to buy quality seeds and apply inputs. No major disruption in the supply chain and port operations was observed except temporary delays during strict lockdown days. Export restrictions by countries where rice consumption is high led to increased opportunities for Pakistani rice exporters. Short term market fundamentals remain robust. However, in the medium term, any production shocks that could result in a lower-than-expected harvest could trigger an increase in rice prices. Likewise, as a third wave of COVID-19 pandemic is emerging, demand fueled by panic buying and hoarding could also trigger a price increase.

Policy:

The rice sector is benefiting from the overall support package announced by the government for the agriculture sector in the wake of the COVID-19 pandemic. This package includes financial support to small and medium enterprises and farmers in the form of power bill deferment, bank lending, as well as subsidies and tax incentives. The State Bank of Pakistan (SBP) is providing loans under the Export Financing Scheme (EFS). The SBP has increased the time for receiving export payment to 270 days, up from 180 days. Farmers are also being offered transplanters and rice harvesters at a fifty percent discount as well as relief on the purchase of rice choppers.

The Pakistan government's role in the rice sector has largely been limited to research and development of rice varieties and providing extension services to farmers. The government is also working with the Rice Exporters Association of Pakistan (REAP) to increase the share of high value basmati in the overall rice export matrix but has had limited success. Since the publicly run Rice Export Corporation of Pakistan was disbanded in the 1990s, Pakistan's rice traders have responded well to market liberalization and over the years have become major players in the world rice trade. Although, the milling industry made significant investments in state-of-the-art processing machinery, Pakistan still exports most of its rice in bulk form with no modern packaging and branding. At present, 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, this practice is changing, and Pakistan's rice exporters are becoming increasingly vocal in advocating for their interests.

Production, Supply and Distribution Data Statistics:

Rice, Milled	2019/2020		2020/2021		2021/2022	
Market Year Begins	Nov 2019		Nov 2020		Nov 2021	
Pakistan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	3000	3000	3000	3300	0	3400
Beginning Stocks (1000 MT)	931	931	1031	1031	0	1431
Milled Production (1000 MT)	7200	7200	7600	8200	0	8300
Rough Production (1000 MT)	10801	10801	11401	12301	0	12451
Milling Rate (.9999) (1000 MT)	6666	6666	6666	6666	0	6666
MY Imports (1000 MT)	0	0	0	0	0	0
TY Imports (1000 MT)	0	0	0	0	0	0
TY Imp. from U.S. (1000 MT)	5	0	0	0	0	0
Total Supply (1000 MT)	8131	8131	8631	9231	0	9731
MY Exports (1000 MT)	3820	3820	4100	4300	0	4500
TY Exports (1000 MT)	3900	3900	4000	4200	0	4300
Consumption and Residual (1000 MT)	3280	3280	3300	3500	0	3700
Ending Stocks (1000 MT)	1031	1031	1231	1431	0	1531
Total Distribution (1000 MT)	8131	8131	8631	9231	0	9731
Yield (Rough) (MT/HA)	3.6003	3.6003	3.8003	3.7276	0	3.6621

(1000 HA) ,(1000 MT) ,(MT/HA)
MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Rice, Milled begins in January for all countries.TY 2021/2022

= January 2022 - December 2022

Corn:

Production:

Corn production in Pakistan has almost doubled in the last decade. Corn is now a major crop and is the third most important cereal after wheat and rice. If the present growth trend in corn production continues, it is likely to overtake rice production in the coming years. 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 (Rabi) season that normally starts in the middle of December in Punjab. The autumn (kharif) season begins in September and lasts until the start of December in both Punjab and KPK. The two provinces account for 99 percent of production. Yields are lower in Punjab due to the high temperatures, but conditions in KPK are optimal in the fall. Approximately 65 percent of the maize in Pakistan has access to irrigation; the remainder is farmed under rain-fed conditions.

Growth Momentum Continues with Record Production Levels

MY 2021/2022 (July/June) production is forecast at 7.9 MMT while the MY 2020/21 production estimate is revised upward to 7.8 MMT in accordance with government data. Both the forecast and revised estimate reflect record production and the trend for increased corn production and yields. The increasing adoption of hybrid corn seed, both imported and domestically produced, which now accounts for 70 percent of planted area, is rapidly driving yields higher to meet demand from the poultry and livestock sectors. Another reason is the increase in planting area driven mainly by the continuous shift of farmers from cotton to corn. While it is unusual to forecast a record crop, the growing popularity of hybrids is expected to boost yields again. An estimated 50,000 hectares is used to produce corn silage.

Spring and Autumn Corn

Corn is the major success story for the Pakistan's farming sector over the past two decades with little to no governmental intervention. Between 2000 and 2020, national output has grown four times, backed by better profits for growers.

Although corn planting area has witnessed a steady increase over the years, much of the gains in output has been realized through improved yields. In comparison to the long-term average yield of cotton, which has been in decline since the 2000s, the national average yield for corn has increased more than threefold during the same period.

According to Business Recorder, a Pakistani business daily, "Until the mid-1980s, over half of the national corn output was sourced from Khyber Pakhtunkhwa province. At that time, corn was grown in the northern parts of the country (including the Rawalpindi belt of Punjab) mainly as a cereal

for direct human consumption. Since the crop lagged in popularity as the preferred cereal of the subcontinent, it remained overlooked by government policy makers and regulators, resulting in poor yields. However, the increasing popularity of poultry as a source of protein starting in the 1990s meant that the farmers needed an affordable source to feed an increasing number of broiler birds. Serious efforts were made by private sector seed companies to commercialize corn as a feedstock. This was also the first time when the corn crop made in-roads into Punjab as a competitor to other major kharif crops such as rice and cotton. During this period, private sector seed companies also marketed an innovative farming practice, which was quite common globally but new to Pakistani growers at the time: two growing seasons per year for corn. The spring corn crop was subsequently introduced and enjoyed substantial commercial success, especially in Punjab. Despite corn's success as a major Rabi (spring) season crop in Punjab, over half of the output in Punjab is instead planted during kharif (autumn) season, competing with other commercial crops such as cotton and rice for planted area. This is because wheat remains the preferred Rabi (spring) crop for farmers and receives major government assistance in the form of a support price policy, guaranteed returns, and government procurement".

https://www.brecorder.com/news/40050472/pakistans-upcoming-maize-challenge

Consumption:

The growth in corn production in Pakistan is directly linked with the growth in the local poultry industry. The poultry industry is the main buyer of Pakistan's corn, utilizing almost 65 percent of corn 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, to a lesser extent, planting seed purposes. The main products of wet milling are industrial starches, liquid glucose and dextrose. The poultry sector is one of the most modern and vibrant segments of Pakistani agriculture. There are approximately 180 feed mills producing poultry feed in the country with a capacity to produce 10 MMT of feed.

While the impact of this phenomenal growth on the rural economy and farmer livelihood is self-evident, its implications with respect to downstream industries and national food security is even more profound. Poultry, in recent years, has emerged as the most inexpensive and accessible animal protein for consumers, owing much to the abundant availability of maize grain.

Future Consumption Trends:

The poultry industry is likely to be the main driver for the continuous growth of the corn crop in Pakistan. However, in three to five years, the consumption matrix is likely to shift more towards dairy and the aquaculture sectors. The dairy sector is rapidly developing in Pakistan with several new commercial dairy farms opening every year. In this year alone 6,000 dairy cows from the United States have been imported into Pakistan. The shift from local cow breeds to Holstein cows is generating

demand for higher quality feed. Pakistan's nascent aquaculture sector is also projected to grow quickly and is expected to be another driver for increased corn demand in Pakistan.

Trade:

The Government of Pakistan imposes a thirty percent regulatory duty and ten percent customs duty on imported corn, shielding producers from competition from imports. The Pakistan Poultry Association has reportedly sought a tariff reduction, but without success. The duty has resulted in no corn imports, even though Pakistan's domestic corn prices are higher than international prices. The feed industry has experimented with imported sorghum and distiller dried grains as an alternative to corn, as both are subject to lower tariffs and taxes than corn.

Policy:

The GoP does not allow for cultivation of genetically engineered (GE) corn despite the advocacy for such from the multinational seed companies. The government believes that a ban on cultivation is necessary to avoid natural crop contamination that can subsequently hurt Pakistan's maize exports.

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 production 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 set of government incentives for most farmers in Pakistan. Going forward, sustainable growth of the maize crop will hinge on further increases in productivity and adoption of more innovative technologies that reduce costs and increased demand from Pakistan's growing livestock and aquaculture sectors.

Production, Supply and Distribution Data Statistics:

Corn	2019/2020		2020/2021		2021/2022	
Market Year Begins	Jul 2019		Jul 2020		Jul 2021	
Pakistan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	1330	1330	1385	1385	0	1400
Beginning Stocks (1000 MT)	878	878	864	853	0	828
Production (1000 MT)	6900	6900	7000	7800	0	7900
MY Imports (1000 MT)	23	25	25	25	0	30
TY Imports (1000 MT)	22	20	20	20	0	20
TY Imp. from U.S. (1000 MT)	6	0	0	0	0	0
Total Supply (1000 MT)	7801	7803	7889	8678	0	8758
MY Exports (1000 MT)	137	50	50	50	0	60
TY Exports (1000 MT)	84	50	50	50	0	50
Feed and Residual (1000 MT)	5200	5300	5500	6000	0	6100
FSI Consumption (1000 MT)	1600	1600	1600	1800	0	1900
Total Consumption (1000 MT)	6800	6900	7100	7800	0	8000
Ending Stocks (1000 MT)	864	853	739	828	0	698
Total Distribution (1000 MT)	7801	7803	7889	8678	0	8758

Corn	2019/2020		2020/2021		2021/2022	
Market Year Begins	Jul 2019		Jul 2020		Jul 2021	
Pakistan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Yield (MT/HA)	5.188	5.188	5.0542	5.6318	0	5.6429

(1000 HA) ,(1000 MT) ,(MT/HA)
MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Corn begins in October for all countries. TY 2021/2022 = October 2021 - September 2022

Attachments:

No Attachments