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Report Highlights:

High global commodity prices are expected to slow the growth of 2021/22 Indonesian wheat imports and lower the use of wheat in feed formulation. Although Ukraine is one of Indonesia's top wheat suppliers, industry sources indicate the Russia/Ukraine conflict will not have an immediate impact on wheat supplies to Indonesia, as they reportedly received all of their contracted wheat shipments from Ukraine before the start of the conflict. Indonesian flour mills and feed mills have not yet started new purchases from Ukraine as the next wheat harvest in Ukraine is not expected to occur until August 2022. Wheat imports from Australia are likely to offset potential future losses of Ukrainian imports. The steady decline of COVID-19 cases is expected to continue to improve consumer purchasing power and drive increases in the consumption of wheat and corn for Food, Seed and Industrial use in 2021/22 and 2022/23.

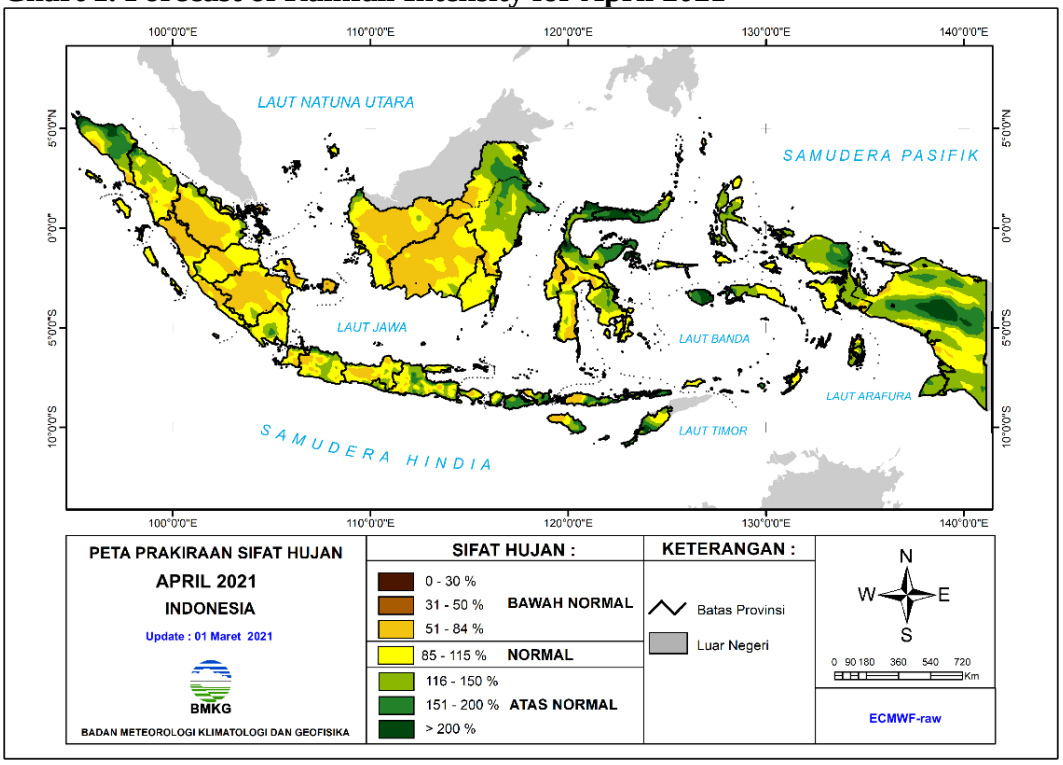
Glossary:

APTINDO	: Indonesian Flour Millers Association
BAPANAS	: National Food Agency
BMKG	: Indonesian Meteorology, Climatology, and Geophysics Agency
BI	: Bank of Indonesia
BPS	: Indonesian Statistics Agency
BULOG	: Indonesian National Logistics Agency
DDGS	: Distillers Dried Grains
GOI	: Government of Indonesia
GPMT	: Indonesian Feed Millers Association
HPP	: Government Purchasing Price
MOA	: Ministry of Agriculture
MOT	: Ministry of Trade
MPW	: Ministry of Public Works
NTP	: Farmers' Terms of Trade
PKH	: Hope Family Program
P3JI	: Indonesian Corn Wet Millers Association
IDR	: Indonesian Rupiah
SME	: Small and Medium Enterprises
USSEC	: United States Soybean Export Council
WHO	: World Health Organization

SECTION I. SITUATION AND OUTLOOK

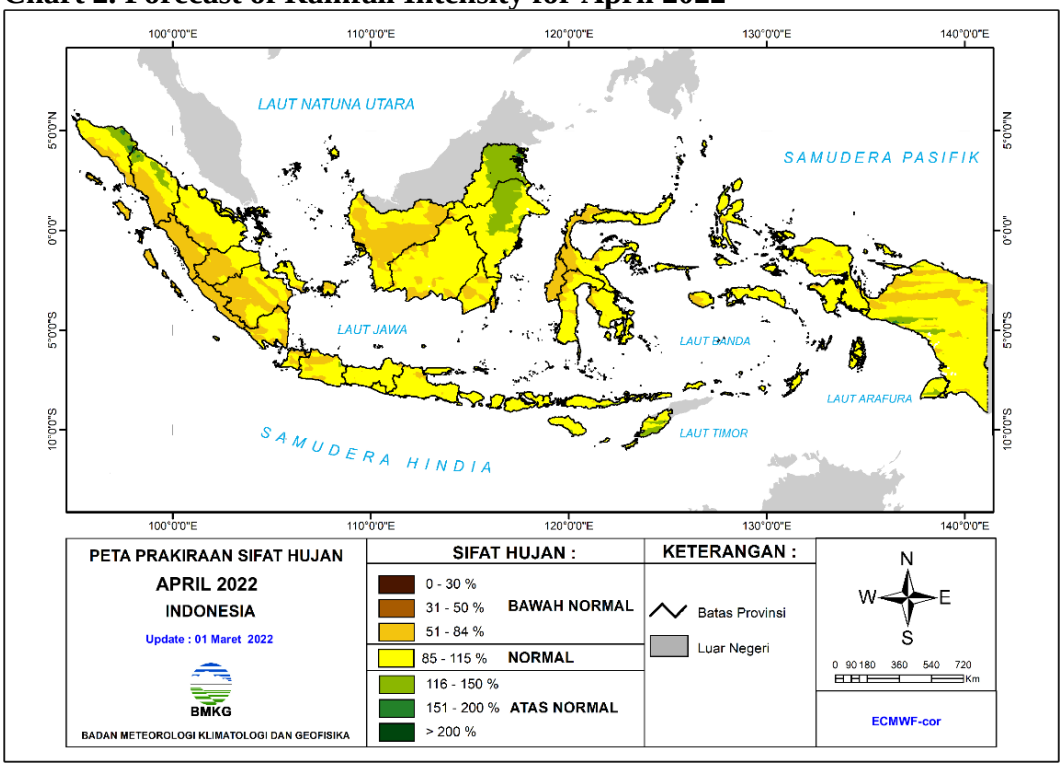
In February 2022, The Indonesian Meteorology, Climatology, and Geophysics Agency (*BMKG, Badan Meteorologi, Klimatologi, dan Geofisika*) forecasted that the 2021/22 rainy season would not end until April or May 2022. During the peak period of the rainy season (February to March 2022), long periods of rain are expected to occur. BMKG also predicts that the impact of La Nina will not be over until April 2022. The timely arrival of the rainy season in October and November 2021 enabled farmers to start the first crop cycle of 2021/22 on time. Water availability from normal reservoir levels and adequate rainfall is expected to encourage most farmers on low-land, semi-irrigated areas to continue growing paddy rather than secondary crops such as corn or soybean, as well as expand corn area on up-land, rain-fed areas during the second crop cycle (usually March to June).

Chart 1. Forecast of Rainfall Intensity for April 2021



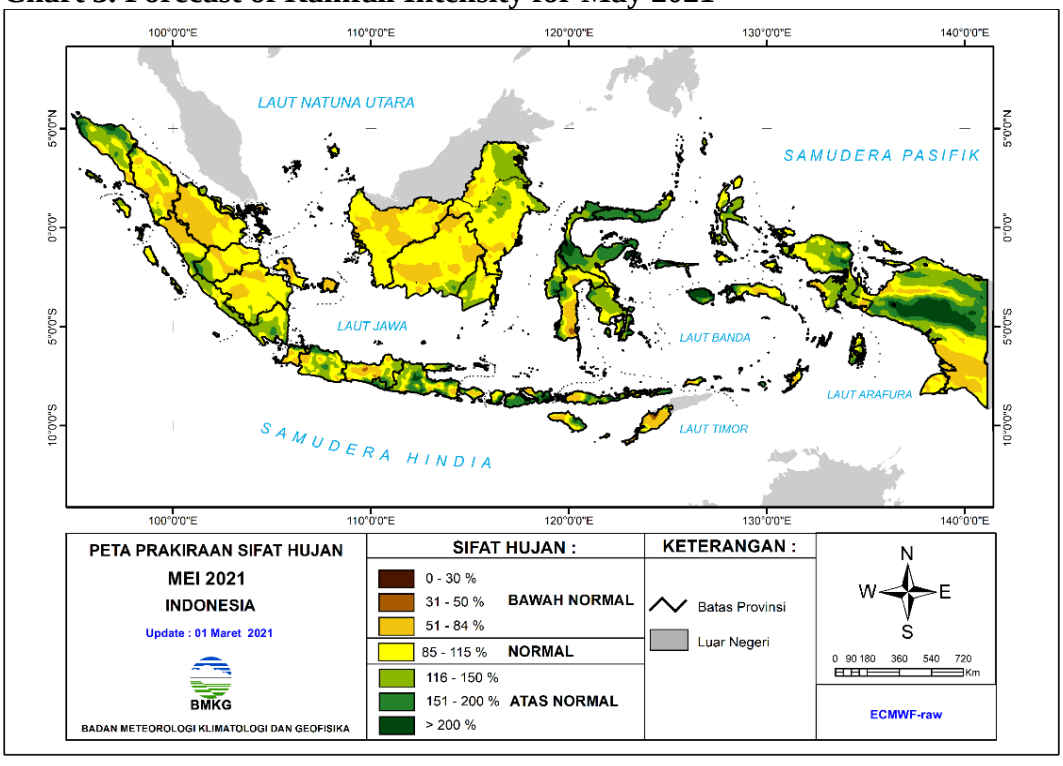
Source: BMKG

Chart 2. Forecast of Rainfall Intensity for April 2022



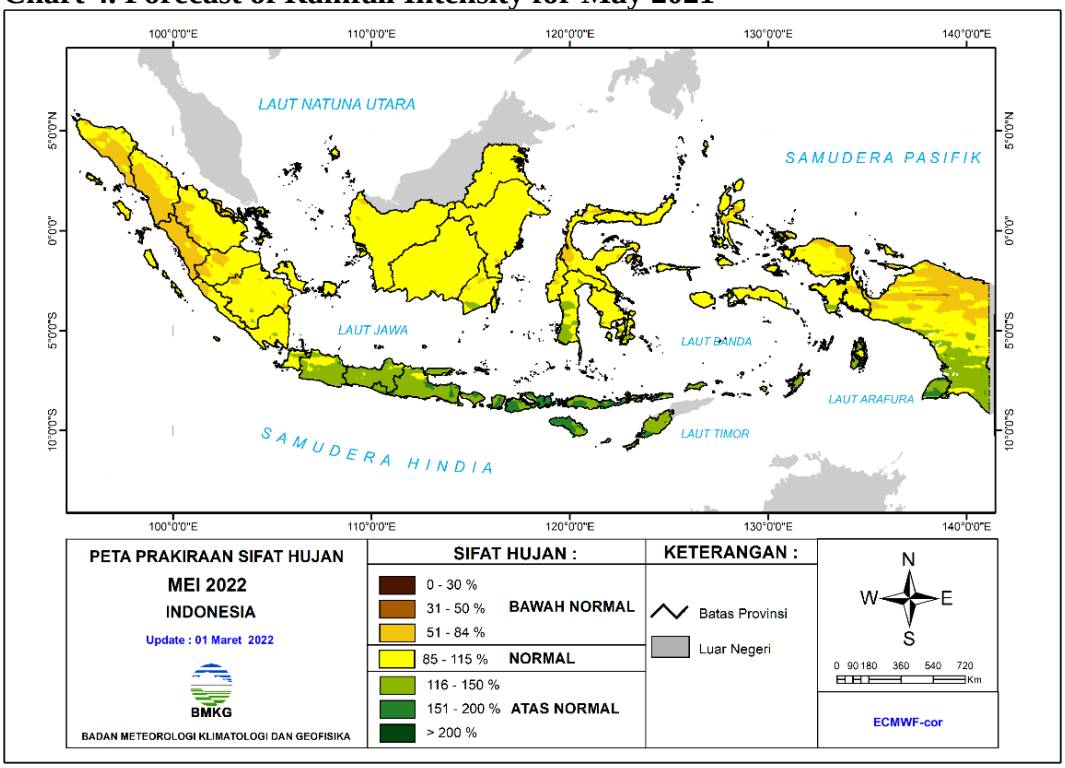
Source: BMKG

Chart 3. Forecast of Rainfall Intensity for May 2021



Source: BMKG

Chart 4. Forecast of Rainfall Intensity for May 2021



Source: BMKG

According to the Indonesian Ministry of Public Works (MPW), approximately 60 percent of Indonesian harvested rice area is irrigated, while the remaining 40 percent is rainfed. With the arrival of the rainy season, major reservoirs in Java reported normal levels of water elevation. The water volume is expected to be able to supply water for paddy fields close to the reservoirs.

Table 1. Water Elevation at West Java Water Reservoirs, March 2, 2022

No.	Reservoir	Reservoir Volume (Million m^3)	Elevation and Volume				Condition
			Target		Observed		
			Elevation (m)	Volume (Million m^3)	Elevation (m)	Volume (Million m^3)	
1	Jatiluhur	1325.40	95.10	447.62	93.72	n/a	Normal
2	Cirata	668.12	210.61	201.23	213.33	n/a	Normal
3	Saguling	530.75	633.08	159.48	636.86	n/a	Normal

Source: Indonesian Min. of Public Works, (March 11, 2022), processed by FAS/Jakarta

On March 21, 2022, the World Health Organization (WHO) reported a total of 1,156,854 COVID-19 confirmed cases globally, a significant decline compared to the peak of 4,040,347 confirmed cases on January 26, 2022. Indonesian cases reflect this global trend, with the WHO reporting a total of 29,204 confirmed cases in Indonesia on March 21, 2022, down 93 percent from the peak of 389,727 positive cases recorded on February 14, 2022. In line with declining cases of COVID-19, the global economy is projected to continue to recover while facing various challenges, such as the possible resurgence of the pandemic through new variants, geo-political tensions, and rising global inflation which has prompted a number of developed countries to normalize their monetary policies.

Despite the arrival of the Omicron variant in Indonesia in early 2022, the Government of Indonesia (GOI) did not implement measures as strict as those in place during the Delta variant outbreak in mid-2021, and so had a less severe impact on the economy. The Indonesian Statistics Agency (BPS) reported that Indonesia's economy grew by 3.69 percent from 2020 to 2021. Indonesia's economy in the fourth quarter of 2021 was 1.06 percent higher than in the previous quarter and 5.02 percent higher than in the fourth quarter of 2020. The agricultural sector maintained positive growth throughout 2021 on strong consumer demand for staple commodities and a growing food processing sector. Therefore, the Bank of Indonesia (BI) projects economic growth in 2022 at 5.5 percent, up from 4.7 percent.

SUMMARY

Wheat

Wheat imports for 2021/22 are estimated to increase to 11.0 million metric tons (MMT) from 10.45 MMT in 2019/20, reflecting rebounding demand in food consumption following the easing of COVID-19-related restrictions. Considering this economic recovery and steady population growth, 2022/23 wheat imports are forecast to increase to 11.2 MMT. In line with increased feed production, wheat consumption by feed mills in 2021/22 and 2022/23 is estimated to increase to 1.7 MMT and 1.8 MMT respectively.

Corn

Post revises 2020/21 corn harvested area and production to 3.85 million hectares and 12.6 MMT, an increase of 6.9 percent and 6.8 percent respectively. Harvested area in 2021/22 and 2022/23 are forecast to continue increasing to 3.9 million hectares and 3.95 million hectares respectively as farmers generally prefer to grow more corn compared to other secondary food crops. In line with increasing area, corn production is expected to increase to 12.7 MMT and 12.9 MMT in 2021/22 and 2022/23. Increasing demand for corn starch from the growing food processing and food service sectors is expected to push up 2021/22 and 2022/23 corn imports to 1.1 MMT and 1.2 MMT destined solely for corn wet mills.

Rice

Post revises down 2020/21 harvested area 3 percent to 11.4 million hectares from 11.8 million hectares as some farmers switched to planting corn because of better price margins. Consequently, 2020/21 rice production is also revised down to 34.5 MMT of milled rice equivalent from 35.3 MMT. For 2021/22, despite area expansion during the first crop cycle, rice production is expected to decline further from the previous year to 34.4 MMT due to lower yield. In line with expected marginal increases in harvested area and assuming better yields than the previous year, 2022/23 rice production is forecast to increase to 34.6 MMT.

WHEAT

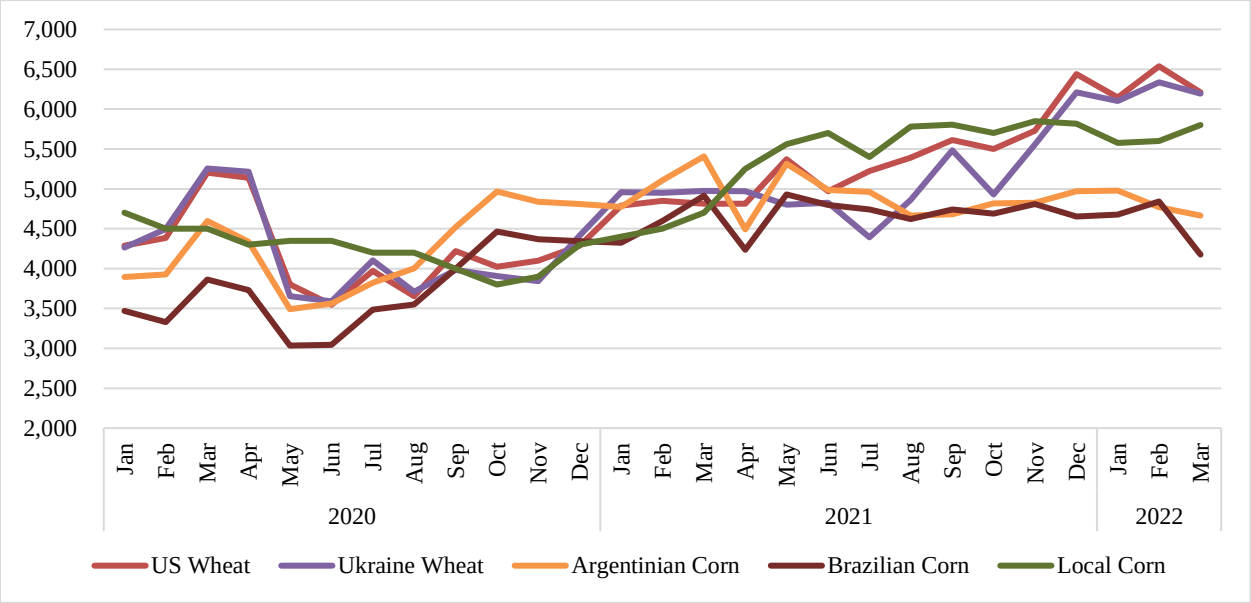
Production

Indonesia does not produce wheat domestically and is fully reliant on wheat imports to fulfill demand for wheat flour-based food products as well as animal feed for poultry, aquaculture, and livestock.

Trade

During the pre-deregulation era from 1970 to 1998, when wheat imports were carried out by a single state-owned procurement company, BULOG, only five flour mills operated in Indonesia. Currently, 30 flour mills are operational across the archipelago, including 22 mills on Java Island, six mills on Sumatera Island, and two mills in South Sulawesi. Despite the challenging pandemic years of 2020 and 2021, the expansion of existing mills continues. Two new mills located in South Sulawesi and West Java are expected to start operations in 2022. Installed capacity in 2021/22 is estimated to reach 13.1 MMT, an increase from 12.8 million in 2020/21. However, running capacity is currently only averaging 60-70 percent, a decline from 80 percent in 2018/19. As more mills open and expand capacity, competition in the market is expected to further increase price sensitivities, already a major factor in determining the source of imports.

Chart 5. Imported Wheat Prices v. Local Corn Prices (IDR/kg)



Source: Hammersmith and USSEC, processed by FAS

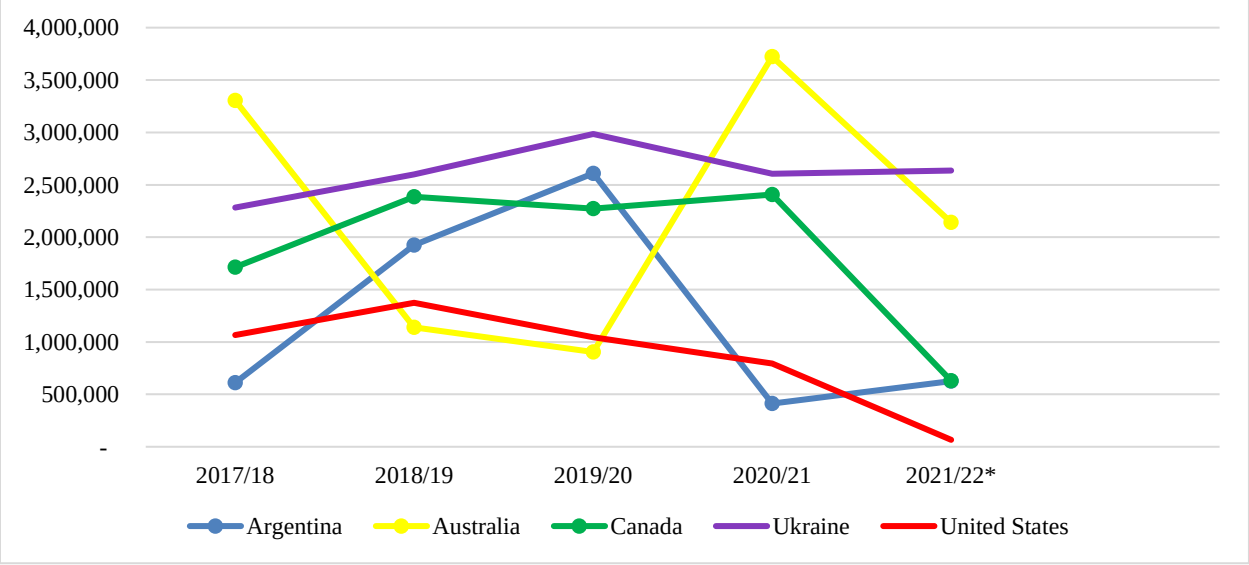
Wheat is also imported as a feed ingredient substitute for corn depending on international prices. Imports of corn for feed use remain restricted to BULOG, which must receive an authorization from the newly established National Food Agency (BAPANAS) before importing and can only distribute directly to small-holder farmers, not to feed mills. Imports of corn are normally only allowed when prices spike due to domestic supply shortages. Regardless of annual production

volumes, the seasonality of domestic corn supplies along with limited drying and storage facilities as well as increasing demand from feed mills continue to push corn prices higher even during the main corn harvesting period. Despite the high prices of domestic corn, soaring global prices of wheat and other protein sources for feed are forcing Indonesian feed mills to purchase more domestic corn and lower their consumption of imported wheat.

In 2020/21, Indonesia imported a total of 10.45 MMT of wheat equivalent, with Australia as its largest supplier with 36 percent market share and Ukraine as the second largest supplier with 25 percent. Canada served as the third largest supplier with 23 percent market share. The United States is losing market share due to its higher prices. Although Indonesian flour mills source from several different countries, feed mills prefer to procure only Ukrainian wheat due to lower prices and acceptable quality.

According to industry sources, the conflict in Ukraine will not have an immediate impact on supplies to Indonesia, as they reportedly received all of their contracted wheat shipments from Ukraine before the start of the Russia/Ukraine conflict. Indonesian flour mills and feed mills have not yet started new purchases from Ukraine as the next wheat harvest in Ukraine is not expected to occur until August 2022. These flour mills and feed mills have also reduced procurement from Russia due to the wheat export tax imposed by the Russian government starting last year. With Australia's record wheat production in 2021/22, closer proximity, and lower freight costs, Australia is likely to offset potential future losses of Ukrainian imports. Wheat imports from Australia during the period of July 2021 to January 2022 increased by 112 percent compared to the same period of 2020/21. However, Ukraine dominated the market with 38 percent market share of total Indonesia wheat imports. Australia, Canada, and Argentina followed with 31 percent, 9 percent, and 9 percent market share respectively. Supply from Australia started to pick up in November 2021.

Chart 6. Indonesia Wheat Imports (MT), 2018 - 2022



Note: *for the period of July 2021 to January 2022 only
Source: Trade Data Monitor, March 2022

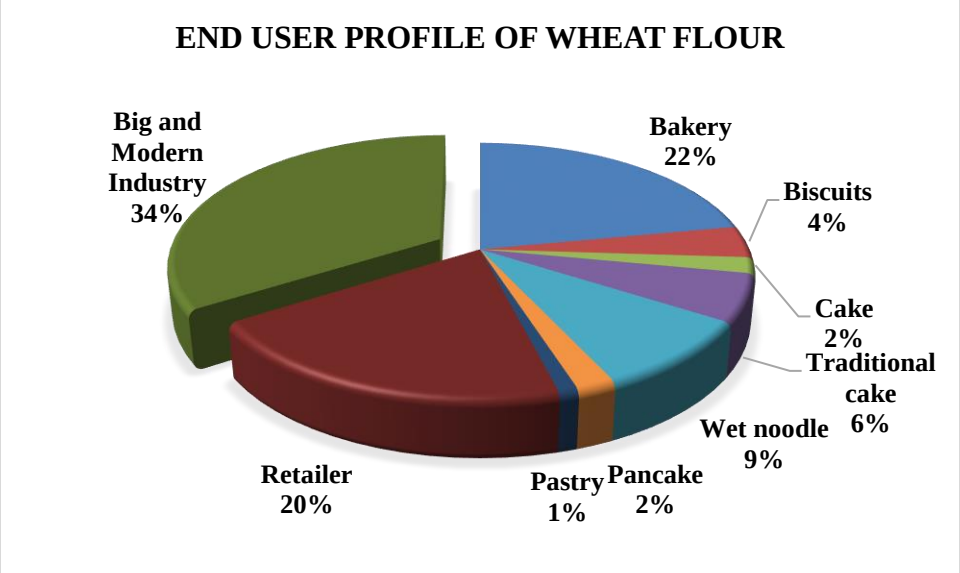
Despite high international wheat prices Indonesia's recovering economy is expected to drive up its wheat imports to 11.0 MMT of wheat equivalent in 2021/22. In line with population growth and a rebounding economy, wheat imports are forecast to grow modestly to 11.2 MMT in 2022/23.

Domestic wheat flour continues to dominate the local market with a 99.9 percent market share. In line with higher consumption, wheat flour imports in 2021/22 are forecast to marginally increased by 11.2 percent to 73,300 MT of wheat equivalent from to 65,929 MT in 2020/21. During the first semester of 2021/22, Indonesia's imports of wheat flour reached a total of 31,300 MT of wheat equivalent. India replaced Turkey as Indonesia's largest supplier of wheat flour with 84.8 percent market share, followed by South Korea with 9.6 percent.

Consumption

In 2020/21, annual per capita wheat flour consumption slightly increased to 32 kg from 31 kg in 2019/20. Indonesia's trend towards urbanization and a growing middle class continue to align with an increasingly diverse diet and increased consumption of wheat-based foods such as breads, pizza, and pasta. The decline in COVID-19 cases, faster vaccination rollouts, and the relaxation of social distancing measures have led to increased economic activity and domestic demand for wheat-based foods. Visits to malls, restaurants, and tourist destinations are increasing. BPS reported that starred hotel occupancy rates in January 2022 increased to 42.43 percent compared to 30.35 percent in January 2021. However, high prices of wheat on the international market combined with volatile exchange rates resulted in increased wheat flour production costs, which are passed on to consumers through higher retail prices. The price of one popular brand of wheat flour, Segi Tiga Biru, increased by 8 percent to 10,900 IDR/kg ($761/MT) in March 2022 from 10,100 IDR/kg ($706/MT) in March 2021.

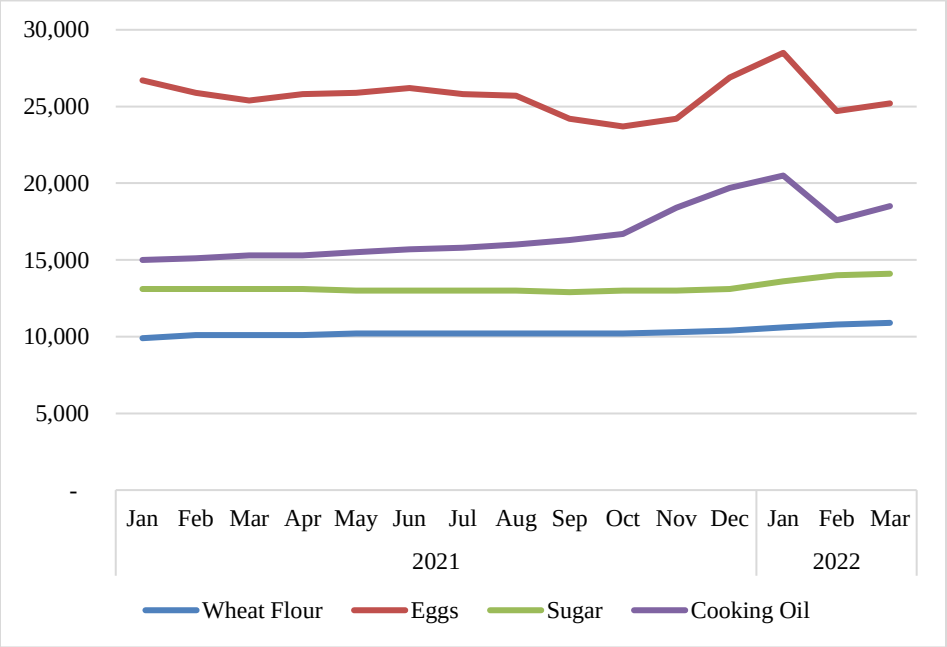
Chart 7. End User Profile of Indonesian Wheat Flour, February 2022



Source: Indonesian Flour Millers Association (APTINDO)

Two-thirds of Indonesian wheat flour users are considered Small and Medium Enterprises (SME), characterized as traditionally managed, family-owned, and community-oriented businesses. These include small-scale wet noodle makers, street food vendors, low-end bread and bakery businesses, and traditional Indonesian cake makers. The other third is made up of large and modern industries, including several publicly listed companies with advanced production facilities and professional management. These producers include instant noodle manufacturers, high-end bakeries, and cookie and biscuit manufacturers. High global commodity and energy prices have also translated into volatile retail prices for several staple food products.

Chart 8. Retail Prices of Various Staple Products (IDR/kg)



Source: Ministry of Trade, March 2022

SMEs with limited capital are struggling with high prices of raw materials while also finding it difficult to increase the prices of their end products due to the price sensitivity of their customers. Some SMEs have reportedly had to pause or close down their operations. The exception to this trend is high-end artisanal bakeries which use premium quality wheat flour and are supported by digital marketing. Growth in this industry has recently come from SMEs, driven by new recipes and innovative products on the market. The growth of wheat flour consumption in 2021/22 is also expected to come from large industries which benefit from a more stable market, longer shelf lives for their end products, access to modern markets, and strong global demand. The Indonesian Flour Millers Association (APTINDO) reported that exports of wheat-based products reached a total of $1.034 billion in 2021, an increase of 2.3 percent from $1.011 billion in 2020, with pastries, wafers, biscuits, instant noodles, and stuffed pasta seeing the largest increase in demand. In 2021, Indonesian wheat-based products were exported to the People's Republic of China (PRC) (60 percent), the Republic of Korea (14 percent), and Vietnam (14 percent).

Based on the abovementioned factors, Post expects declining wheat flour demand from most SMEs will be offset by growing demand from artisanal bakeries and large manufacturers which will lead to overall annual increases of total wheat-based food consumption by 3.4 percent to 8.9 MMT in 2021/22 and 9.3 MMT in 2022/23.

Despite higher international wheat prices, Post predicts that increased feed production in 2021/22 and 2022/23 will drive up wheat consumption. The price spread whereby feed mills begin incorporating more wheat over local corn is approximately 400-500 IDR/kg ($27.9 – 35/MT). Currently, the landed price of Ukrainian wheat, the origin most frequently used in feed formulation, is 6,200 IDR/kg ($433/MT) compared to 4,800 IDR/kg ($405/MT) for local corn at the mills' gate. The wheat inclusion rate is about 17 percent in layer feed formulation and 11 percent in aquaculture feed formulation. In 2021, aquaculture feed production reached a total of 1.7 MMT and the Indonesian Feed Millers Association (GPMT) has forecast a growth of 6 percent in aquaculture feed production for 2022. Despite the relative price advantage of local corn over wheat imports, due to nutrition requirements, feed mills will continue to include wheat as a key ingredient in feed rations, especially during the off-harvest corn season when prices for local corn tend to surge and the price advantage of corn disappears. Post forecasts 2021/22 wheat consumption for feed to increase to 1.7 MMT from 1.5 MMT consumed in 2020/21. Wheat for feed consumption is forecast to further increase to 1.8 MMT in 2022/23 in line with forecast increases of overall feed production.

Stocks

Due to higher import and higher food and feed consumption, 2021/22 ending stocks are expected to marginally increase to 1.78 MMT of wheat equivalent compared to 1.73 MMT of wheat equivalent in 2020/21. Reflecting higher food and feed consumption, 2022/23 ending stocks are forecast to decline to 1.43 MMT of wheat equivalent.

CORN

Production

Indonesia's main corn producing areas are in Java, which accounts for 40 percent of national corn production, followed by Sulawesi (24 percent), Sumatera (24 percent), and Nusa Tenggara (10 percent). Indonesia normally experiences a dry season from April to October and a rainy season from October to April. Depending on the relative distance to water reservoirs, rivers, and other sources of water, most regions can normally accommodate three crop cycles per year.

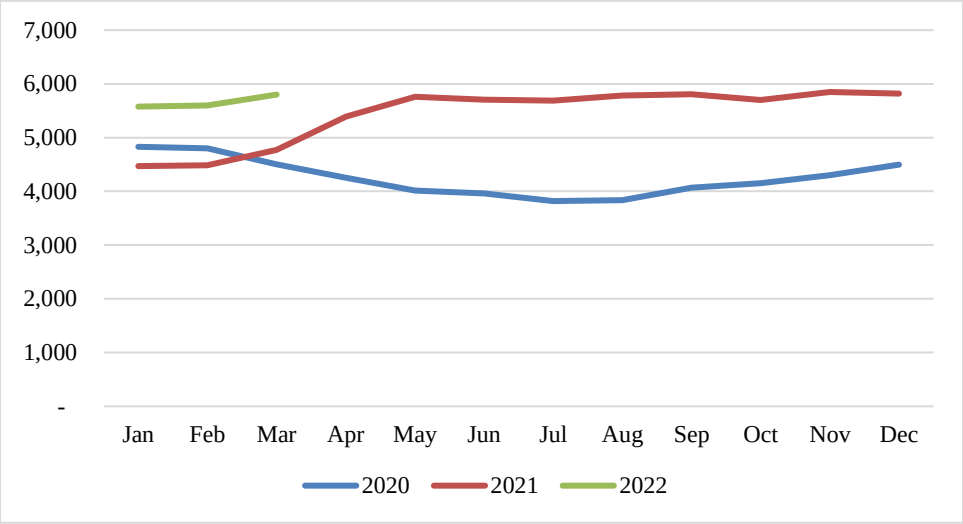
Photo 1: Cornfield in Central Java

Source: FAS Jakarta, March 3, 2022

Across much of Indonesia, the first corn season normally takes place from October to February (49 percent); the second from March to June (37 percent); and the third from July to September (14 percent). At the onset of the 2021/22 rainy season, most farmers started the first planting season on time (in October or November) just like the previous planting season of 2020/21. Sufficient water availability from adequate rainfall during the second crop cycle will likely result in farmers on upland, rain-fed areas growing more corn.

In addition to adequate water, high corn prices have also incentivized farmers to grow more corn over other secondary crops such as soybean, mung bean, or peanut during the second and third crop cycles of 2020/21. Some farmers on lowland, semi-irrigated areas also switched from growing paddy to corn.

Chart 9. Average Corn Prices at Feed Mill's Gate (IDR/kg)

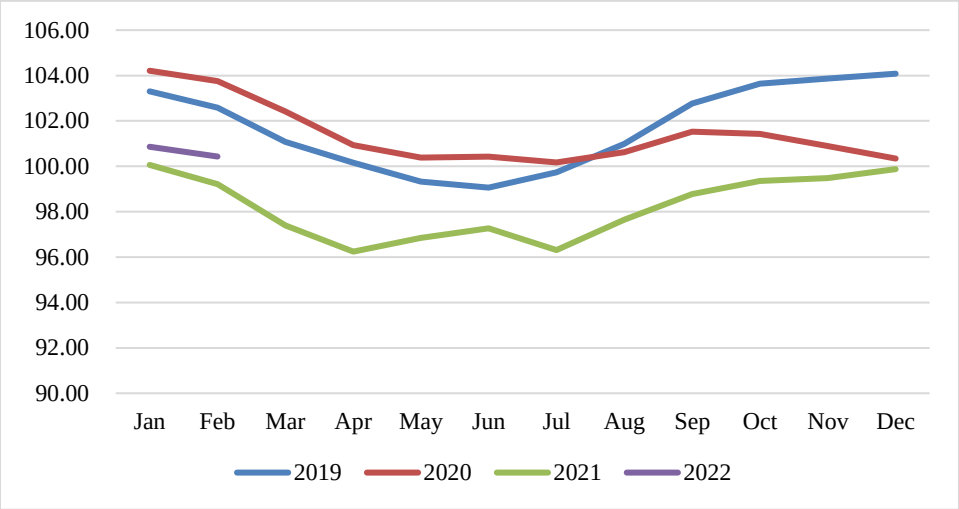


Source: MOA, March 2022

To increase national corn production, the Ministry of Agriculture (MOA) has provided farmers with subsidized corn seed. However, the GOI has continuously reduced the MOA's budget, thereby reducing its budget allocation for food crops production. In 2021, MOA's total budget for food crops production was 3.6 trillion IDR ($251 million). In 2022, this budget was reduced to 2.1 trillion IDR ($182 million). With its 2022 budget, MOA will provide subsidized seed for a total area of 352,000 hectares of corn and 842,000 hectares of paddy, a decline from 988,000 hectares of corn and 1.7 million hectares of paddy in 2021. However, a reduced allocation of subsidized seeds is likely to increase corn production because farmers will have the ability to choose higher yielding seeds from the commercial market. With subsidized seeds, farmers are not provided a choice in seed variety.

The budget cuts coincide with an increase in farmers' purchasing power as a result of the COVID-19 related economic slowdown. BPS reported Farmers' Terms of Trade (NTP) in general tend to increase throughout 2021 to February 2022. In February 2022, NTP reached 108.83 (a 0.15 percent increase from the previous month). NTP as an indicator of farmers' purchasing power is illustrated in Chart 10 below.

Chart 10. Food Crop Farmers' Terms of Trade



Source: BPS, March 2022.

The NTP is the comparison of the price index received by farmers to the price index paid by farmers. The GOI uses the NTP to assess the purchasing power of farmers in rural areas. The NTP also shows the terms of trade of agricultural products with goods and services consumed as well as for production costs. With farmers' higher purchasing power, hybrid corn seed producers reported more sales of higher quality seeds. Combined with farmers' interest to grow more corn, the seed industry reported hybrid seed sales in 2021 reached a total of 60,000 to 65,000 MT compared to sales of 55,000 MT in 2020. Industry estimates that corn prices will remain high in 2022 and will continue to motivate farmers to grow more corn in 2021/22. Hybrid corn area accounts for 75 percent of total corn area.

Despite the uptick in the use of higher quality seeds, production is being hindered by a lack of subsidized fertilizer for food crops. The MOA reported that in 2021, fertilizer subsidies reached 27.147 trillion IDR, approximately 93.45 percent of the budget ceiling for fertilizer subsidies of 29.05 trillion IDR. Issued through MOA Regulation no. 41/2022, the total GOI budget for subsidies for food crops was reduced to 25.28 trillion IDR for 9.11 MMT of fertilizer in 2022. A long process for submitting requests for subsidized

Photo 2: Harvested Corn Collection in Central Java

Source: FAS Jakarta, March 3, 2022

fertilizers has led to delayed arrivals of fertilizers on farms. Having less subsidized fertilizer means farmers will have to supplement their needs with more expensive, non-subsidized fertilizers. Farmers have reported decreased application of fertilizers due to the lack of availability and untimely arrivals of subsidized fertilizers which will likely lead to a decline in yields.

Table 2. Allocation and Maximum Retail Prices of Subsidized Fertilizers

Type of Fertilizer	2020		2021		2022	
	Volume (MT)	Price (IDR/kg)	Volume (MT or Liter)	Price (IDR/kg or IDR/liter)	Volume (MT or liter)	Price (IDR/kg or IDR/liter)
Urea	3,274,303	1,800	4,166,669	2,250	4,232,704	2,250
SP 36	500,000	2,000	640,812	2,400	541,201	2,400
ZA	750,000	1,400	784,144	1,700	823,475	1,700
NPK	2,688,000	2,300	2,662,000	2,300	2,470,445	2,300
Specific NPK	17,000		17,000	3,300	11,469	3,300
Granulated organic	720,000	500	770,850	800	1,038,763	800
Liquid organic			1,500,000	20,000	1,870,380	20,000

Source: Ministry of Agriculture Regulation No. 41/2022

Based on the abovementioned factors, 2021/22 corn harvested area is estimated to increase to 3.9 million hectares, while corn yield is estimated to decline to 3.26 MT per hectare. However, high corn prices are expected to incentivize farmers to continue growing corn over other secondary crops. Thus, 2022/23 harvested area is forecast to further increase to 3.95 million hectares. In line with increased harvested area, 2022/23 corn production is forecast to increase to 12.9 MMT. No significant pest or disease problems were reported during the 2019/20 crop year.

Consumption

Currently, Indonesia's feed mill sector consists of 110 feed mills under 44 companies located in 10 provinces, with 81 of those mills located on Java Island. In 2022, total installed capacity reached approximately 29.7 MMT, remaining on par with the total installed capacity in 2020. Feed mills are running at 70-75 percent of total installed capacity. Following 2016 GOI restrictions on imports of corn for feed use, to secure a consistent supply for operations amid seasonal supplies from farmers, mills began to build their own dryers and silos in 2018. In 2022, total silo capacity is at 1.739 MMT, an increase of 17.6 percent from a total capacity of 1.478 MMT in 2018.

Table 3. Feed Mills (Including Aquaculture): Number of Plants and Installed Capacity

Area	Number of Plants		Production (thousands MT/year)	
	2020	2022	2020	2022
North and West Sumatera	13	13	3,068	3,068
Southern Sumatera and Lampung	6	6	1,500	1,500
West Java and Jakarta	40	40	10,652	10,652
Central Java	13	13	3,950	3,950
East Java	28	28	8,102	8,102
Kalimantan	3	3	800	800
Sulawesi	7	7	1,580	1,580
Total	**110**	**110**	**29,652**	**29,652**

Source: Indonesian Feed Producers Association (*Asosiasi Produsen Pakan Indonesia, APPI*), 2022

The poultry industry consumes approximately 90 percent of domestic animal feed supplies, with aquaculture accounting for 6 percent and cattle and swine the remaining 4 percent. The MOA forecasts that the population of broilers in 2020–2024 will grow around 8.5 percent per year. BPS reported that in 2021 the broiler and layer populations were recorded at 3.1 billion heads and 368 million heads respectively. In 2022, the poultry industry association forecasts that the broiler population will increase by 6.4 percent to 3.3 million heads while the layer population will increase by 10.32 percent to 408 million heads. To meet this demand in 2021, feed mills produced a total of 19.24 MMT of poultry complete feed, while poultry farmers produced a total of 1.26 MMT of home mixed feed. In 2022, feed mills are expected to produce a total of 20.1 MMT of poultry complete feed, while poultry farmers are estimated to produce a total of 1.4 MMT of home mixed feed.

For aquaculture, a total of 1.6 MMT of feed was produced in 2021. In 2022, it is estimated that aqua feed production will increase to 1.72 MMT. The improving economy is expected to increase the consumption of poultry meat to 11.63 kg per capita per year in 2022 compared to 10.1 kg per capita in 2020. Egg consumption is also estimated to increase to 19.32 kg per capita in 2022 from 18.52 per capita in 2021.

The soaring prices of corn and wheat on the international market has encouraged feed mills to use local corn as the primary energy source in feed. Corn usage in feed formulation in 2021 is expected to remain around 40-45 percent compared to 50-60 percent in 2014, which was prior to the import restrictions on corn for feed use. Feed mills fill the gap with wheat purchased from local flour mills and other local feed ingredients.

Table 4. Average Composition of Feed Formulation (percent) in 2022

Animal Species	Corn	Soybean Meal	Rice Bran	Wheat Pollard	Animal By-Products	CGM	Palm Kernel Meal	Palm Oil	DDGS
Broiler	35-45	23-25	15	0	5	10	2	5	0
Layer	50	20	10	0	5	3	3	2	4
Poultry Breeder	50-55	20-22	13	5	0	1-2	0	2-3	1
Swine	40-42	15	18	15	5-6	0	8	1-2	0
Aquaculture	0	30-40	13-14	20	5-6	3	2	2	7
Dairy Cattle	0	0	23-25	15	0	0	10	0	5

Source: APPI, processed by US Grains Council

Corn milling capacity is continuing to grow. Installed capacity is estimated to increase to 4,000 MT per day in 2021/22, compared to 3,000 MT per day in 2020/21. The industry consists of four major players and remains the main importer of corn due to food safety requirements for corn in the wet milling process. The wet milling industry requires corn with an aflatoxin content of less than 20 parts per billion (ppb) to produce food ingredients fit for human consumption, a standard which local corn suppliers cannot meet. Local corn, which is mostly harvested manually at moisture content levels reaching 35 percent, dried under the sun, and often improperly stored at the farmer level, frequently reaches aflatoxin levels far above 20 ppb. As a result, corn wet mills cannot use local corn for their raw materials. Wet millers also prefer imported dent corn over locally produced flint corn due to its higher starch content.

In 2021, the corn milling industry produced a total of 320,000 MT of corn starch, an increase of 5.3 percent from 304,000 MT of corn starch produced in 2020. The industry also produced a total of 250,000 MT of glucose syrup, an increase of 252 percent from 71,000 MT of glucose syrup produced in 2020. Approximately 80-90 percent of the corn starch produced is used as the main raw material for corn vermicelli production, while most of the balance is used as a whitener by the paper industry. Prospects for wet mill expansion remain likely as Indonesia still imports 55 percent of its total demand for corn starch, providing ample opportunity for the local corn milling industry to grow and increase its market share.

Corn for food use is not only consumed as vermicelli but also as a staple food, especially in the Eastern part of Indonesia. However, with rice generally becoming more accessible, corn consumption as staple food continues to decline. The MOA reports that for the period of 2020 to 2024, the consumption of corn as a staple food is projected to decrease by 4.56 percent per year.

Based on the abovementioned factors, 2021/22 and 2022/23 corn consumption for feed is expected to increase to 9.5 MMT and 9.8 MMT respectively due to a recovering economy and a rebound of poultry meat and egg consumption. Despite the declining consumption of corn as a staple food, overall corn consumption for food in 2021/22 and 2022/23 is forecast to increase to

4.2 MMT and 4.3 MMT respectively due to wet mill expansion and increasing demand for corn starch.

Trade

Despite international corn prices soaring from an average cost and freight (CNF) price of $422/MT in March 2022 from $290/MT in 2021, Indonesia's wet milling industry continues to import corn to meet food safety requirements. Based on recent industry expansions, Post estimates 2021/22 corn imports will reach 1.1 MMT, further increasing to 1.2 MMT in 2022/23 as new facilities begin operations.

After much engagement with industry, the MOA and Ministry of Trade (MOT) gained an understanding of the technical specifications of corn required by wet mills that local corn cannot meet. Therefore, no significant impediment to trade was experienced in 2020/21 due to the exception made for food grade corn to GOI policies requiring raw materials to be sourced locally. The MOT issues import licenses for the industry on a semiannual basis, requiring allocation applications to be submitted at least one month in advance. To further ensure the smooth importation of the raw material, industry has proposed to GOI to assign different HS Codes for corn for wet milling and corn for feed. Currently, only BULOG is authorized to import corn for feed under the HS Code 10059090 when local corn is insufficient to meet feed demand. The GOI has not yet made any decision regarding industry's recommendation for food grade corn.

For the period of October 2021 through January 2022, a total of 346,246 MT of food grade corn was imported into Indonesia, an increase of 17.2 percent compared to 2020/21. During this period, Indonesia imported corn mainly from Argentina (48.3 percent) and Brazil (38.3 percent). For marketing year 2020/21, corn imports originated from Argentina (60.4 percent), Brazil (22.9 percent), and the United States (15.6 percent). According to contacts, wet mills prefer to source corn from South America over corn from the United States because South American corn is less brittle, has fewer broken kernels, and contains less foreign material. Industry also claims there are often inconsistencies between the stated specifications on U.S. inspection results and the actual condition of the U.S. corn upon arrival to Indonesia.

Indonesia exports minimal volumes of corn. Exports for 2021/22 are estimated at 2,000 MT. Reflecting production increases, 2022/23 corn exports are forecast to slightly increase to 3,000 MT. In 2020/21 Indonesia exported corn to Singapore (23.6 percent), Thailand (19.1 percent), Japan (16.8 percent), and Pakistan (13.7 percent).

Stocks

Consistent with estimated higher production and higher imports, 2021/22 ending stocks are estimated to increase to 1.443 MMT compared to 1.45 MMT in 2020/21. Stocks are forecast to decline slightly to 1.440 MMT due to higher consumption and exports in 2022/23.

Prices

As per MOT Regulation No. 7/2020, issued on February 10, 2020, the selling price of corn with 15 percent moisture content at the mill level is fixed at 4,500 IDR/kg ($277/MT). Currently, the first main harvest is ongoing. Prices at the farmer's level normally decline as the main harvest season progresses. However, driven by higher demand from feed mills and estimated lower supply from the field, average corn prices at the farmers' level remains high.

Corn prices in March 2022 are currently fixed at 5,800 IDR/kg ($405/MT), 29 percent higher than in March 2021 at 4,500 IDR/kg ($315/MT). The price of feed ingredients constitutes 80-85 percent of compound feed production costs. Exacerbated by the scarcity of shipping containers for importing containerized feed ingredients such as DDGS, prices of poultry complete feed have also increased.

Table 5. Prices of Poultry Complete Feed

Broiler Complete Feed												
2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100	6650 - 7100
2022	6800 - 7200	6800 - 7200	6800 - 7200									
Layer Complete Feed												
2020	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5650 - 6100	5800 - 6250	5800 - 6250
2021	5900 - 6350	5900 - 6350	5900 - 6350									

Source: U.S. Soybean Export Council (USSEC)

RICE, MILLED

Production

Approximately 50 to 55 percent of rice production is in Java, while Sumatera and Sulawesi account for 20 and 12 percent, respectively. Approximately 85 percent of rice production comes from irrigated paddy fields. Typically, irrigated farms are planted with paddy during the first and second crop cycles (October – February and March – June), followed by a third crop of paddy or secondary crops such as corn, mung bean, soybean, peanut, or sweet potato (July – October). A prolonged rainy season in 2020/21 combined with attractive prices for corn, has driven some farmers on lowland, semi-irrigated areas to switch from growing paddy to corn. Most of the switches occurred in the major corn producing areas of southern Sumatera, Lampung, and East Java. Farmers on upland, rain-fed areas also opted to grow corn during the second and third crop cycles for the same reasons. The timely arrival of the 2021/22 rainy season has enabled farmers to start the first crop cycle on time, with most farmers planting paddy in October or November 2021. The first main harvest in 2021/22 is currently taking place, a month earlier than the first main harvest in 2020/21 which took place in April 2021.

Photo 3-4: Rice Paddy in Central Java

Source: FAS Jakarta, March 4, 2022

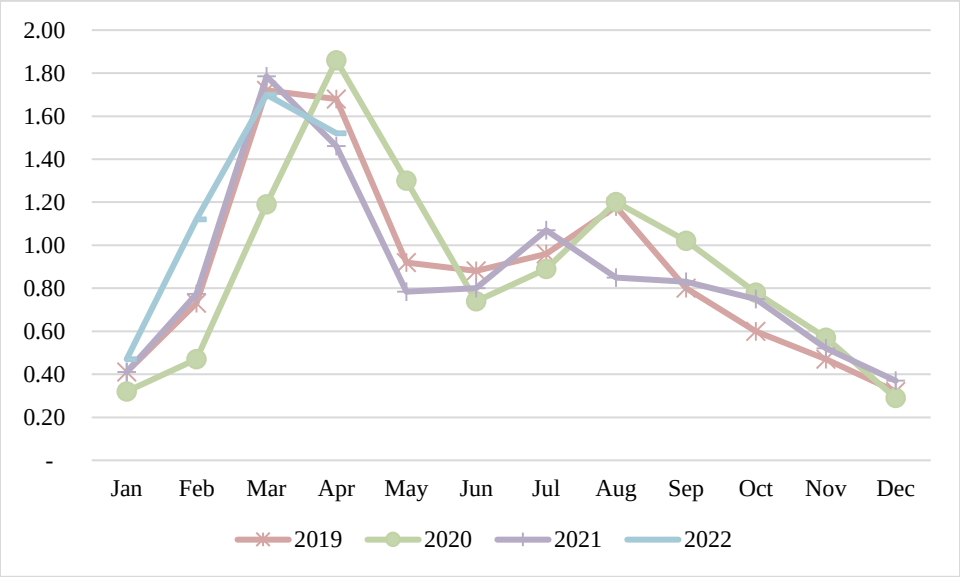
In early March 2022, BPS forecasted based on standing crops that 2021/22 first crop cycle paddy harvested area will increase 8.6 percent to 4.81 million hectares compared to 4.1 million hectares in the first crop cycle of 2020/21. BPS estimates that 2021/22 paddy production for the first main harvest will increase to 25.06 MMT from 23.58 MMT produced during the first main harvest of 2020/21 (January to April 2021). Recent Post observations from the field indicate that the main harvest is currently ongoing in some areas. Frequent rainfall had limited the sunlight required during the flowering and grain filling stages, resulting in high amounts of empty husks and high moisture content for harvested paddy. Paddy farmers also faced the same fertilizer constraints as corn farmers, with some not receiving allocated subsidized fertilizers on time, resulting in fewer applications to crops. Accordingly, some farmers in major paddy growing areas in Central Java and East Java reported slightly declined yields of almost 3 percent compared to the same period of 2021/22. No significant incidents of pests or diseases were reported.

Photo 5: Rice Mill in Central Java

Source: FAS Jakarta, March 4, 2022

Considering the aforementioned factors, Post revises 2020/21 harvested area to 11.4 million hectares, a decline of 3.3 percent from 11.8 million hectares previously estimated. Despite the likelihood some farmers will again switch from growing paddy to corn during the second and third crops cycles which will limit paddy area expansion, due to reports of increased harvested area during the first crop cycle of 2021/22, harvested rice area in 2021/22 is estimated to increase to 11.6 million hectares from the previous year, and then marginally increase to 11.650 million hectares in 2022/23. However, due to reduced yields during the first main harvest, 2021/22 paddy production is estimated to decline to 54.173 MMT from 54.330 MMT in 2020/21. Higher yields resulting from the end of La Nina in April 2022 is expected to increase 2022/23 production to 54.49 MMT.

Chart 11. Paddy Harvest Area Pattern (millions of hectares)



Source: BPS, March 2022

Consumption

The COVID-19 pandemic was detrimental to the livelihoods of many Indonesian households and their ability to purchase even staple foods like rice. As part of its COVID-19 pandemic relief package, the GOI distributed food aid in the form of staple food cards to 18.8 million households. Using this card, recipients could obtain necessary food staples through an appointed distributor. The GOI no longer provides in-kind food aid through BULOG directly to households. BULOG's sole role now is to stabilize rice prices through market interventions by procuring and distributing rice to wholesale markets. In 2021, BULOG distributed 787,000 MT of rice through this kind of market intervention. Combined with other government social aid programs such as its natural disaster relief program, BULOG distributed a total of 1.154 MMT of rice in 2020/21.

Per capita rice consumption continues to decline by approximately 0.62 percent per year as middle and upper-middle income consumers continue diversifying their diets to include more western-style foods like bread and pasta and lower-middle income consumers continue to replace rice-based dishes with instant noodles due to the ease of preparation and affordability. However, with rice prices being more stable than wheat flour prices, Post expects 2021/22 rice consumption to remain stable at 35.2 MMT as in 2019/20. However, with the economy improving and consumer purchasing power increasing, Indonesian consumers will likely continue diversifying their diets away from rice. Accordingly, Post forecasts rice consumption will dip to 35.1 MMT tons in 2022/23.

Policy

For 2022, GOI has not made any adjustment to the Government Purchasing Price (HPP) for paddy. Please see ID2021-0014.

BPS reports prices of wet paddy at the farmer's level in February 2022 increased by 1.9 percent to 4,849 IDR/kg ($339/MT) compared to 4,758 IDR/kg ($333/ton) in February 2021. Wet paddy prices at the mill's level in February 2022 increased by 2.03 percent to 4,962 IDR/kg ($347/MT) from 4,863 IDR/kg ($340/MT) in February 2021. The price increases are in line with lower yields and quality from the ongoing main harvest.

GOI assistance to pandemic-affected households has staved off rising demand for rice at commercial markets and maintained stable prices for medium quality rice at around 12,000 IDR/kg ($839/MT) since February 2021 at the wholesale market. However, these prices remain far above the government-set maximum retail price of 9,450 IDR/kg ($653/MT) for medium quality rice on Java because even production costs are above the government's price ceiling.

Trade

BULOG set its 2022 procurement target at 1.5 MMT, an increase of 25 percent from its 2021 realized procurement of 1.2 MMT. As of March 21, 2022, BULOG has procured a total of 19,728 MT of milled rice, a decline of 83.8 percent compared to 121,832 MT procured at the same period of 2021. BULOG is required to maintain a minimum year-end stock level of 1.5-2 MMT. However, considering the current stable price of rice, the GOI has not considered importing any rice in 2021/22 through BULOG; only private sector importers are expected to import rice. Rice imports for 2021/22 are estimated at 650,000 MT, an increase of 8.3 percent from 600,000 MT imported in 2020/21 mainly due to expected higher demand from the food service sector, especially middle-eastern restaurants which are currently trending in the country. These restaurants use basmati rice, a specialty rice that Indonesia does not produce. In 2022/23, imports of rice are forecast to remain stable at 650,000 MT. In 2020/21, Indonesia imported rice from India (38 percent), Singapore (16 percent), Malaysia (15 percent), and Thailand (12 percent).

Stocks

In line with revised lower production, 2020/21 ending stocks are revised down from the previous estimate to 3.21 MMT. Other than stocks at BULOG, rice mills and households held a total of 1.96 MMT at the end of 2020/21. Ending stocks are estimated to further declined to 3.057 MMT of milled rice equivalent in 2021/22. Based on expected increased production, higher imports, and higher consumption, 2022/23 ending stocks are forecast to rebound to 3.2 MMT of milled rice equivalent.

SECTION II. PSD TABLES

Table 6. PSD: WHEAT

Wheat	2020/2021		2021/2022		2022/2023	
Market Begin Year	Jul 2020		Jul 2021		Jul 2022	
Indonesia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	0	0	0	0	0	0
Beginning Stocks	1716	1716	1730	1730	0	1780
Production	0	0	0	0	0	0
MY Imports	10450	10450	11000	11000	0	11200
TY Imports	10450	10450	11000	11000	0	11200
TY Imp. from U.S.	794	794	0	74	0	100
Total Supply	12166	12166	12730	12730	0	12980
MY Exports	336	336	350	350	0	450
TY Exports	336	336	350	350	0	450
Feed and Residual	1500	1500	1700	1700	0	1800
FSI Consumption	8600	8600	8800	8900	0	9300
Total Consumption	10100	10100	10500	10600	0	11100
Ending Stocks	1730	1730	1880	1780	0	1430
Total Distribution	12166	12166	12730	12730	0	12980
Yield	0	0	0	0	0	0
(1000 HA) ,(1000 MT) ,(MT/HA)						

Note: Figures in the “New Post” columns are not USDA Official figures

Table 7. PSD: CORN

Corn	2020/2021		2021/2022		2022/2023	
Market Begin Year	Oct 2020		Oct 2021		Oct 2022	
Indonesia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	3600	3850	3600	3900	0	3950
Beginning Stocks	1102	1102	1045	1345	0	1443
Production	11800	12600	12000	12700	0	12900
MY Imports	945	945	1200	1100	0	1200
TY Imports	945	945	1200	1100	0	1200
TY Imp. from U.S.	151	151	0	0	0	0
Total Supply	13847	14647	14245	15145	0	15543
MY Exports	2	2	2	2	0	3
TY Exports	2	2	2	2	0	3
Feed and Residual	8700	9200	9100	9500	0	9800
FSI Consumption	4100	4100	4200	4200	0	4300
Total Consumption	12800	13300	13300	13700	0	14100
Ending Stocks	1045	1345	943	1443	0	1440
Total Distribution	13847	14647	14245	15145	0	15543
Yield	3.2778	3.2727	3.3333	3.2564	0	3.2658
(1000 HA) ,(1000 MT) ,(MT/HA)						

Note: Figures in the “New Post” columns are not USDA Official figures

Table 8. PSD: RICE, MILLED

Rice, Milled	2020/2021		2021/2022		2022/2023	
Market Begin Year	Jan 2021		Jan 2022		Jan 2023	
Indonesia	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	11800	11400	11830	11600	0	11650
Beginning Stocks	3313	3313	3410	3210	0	3057
Milled Production	35300	34500	35400	34400	0	34600
Rough Production	55591	54330	55748	54173	0	54488
Milling Rate (.9999)	6350	6350	6350	6350	0	6350
MY Imports	600	600	600	650	0	650
TY Imports	600	600	600	650	0	650
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	39213	38413	39410	38260	0	38307
MY Exports	3	3	0	3	0	3
TY Exports	3	3	0	3	0	3
Consumption and Residual	35800	35200	35600	35200	0	35100
Ending Stocks	3410	3210	3810	3057	0	3204
Total Distribution	39213	38413	39410	38260	0	38307
Yield (Rough)	4.7111	4.7658	4.7124	4.6701	0	4.6771
(1000 HA) ,(1000 MT) ,(MT/HA)						

Note: Figures in the “New Post” columns are not USDA Official figures

Table 9. Harmonized Tariff Nomenclature

No.	HS Code	Description	Import Duty	
			New	Old
1.	1001	Wheat and Meslin		
		- Durum wheat		
2.	1001.11.00	-- Seed	0.0	0.0
3.	1001.19.00	-- Other	0.0	0.0
		- Other		
4.	1001.91.00	-- Seed	0.0	0.0
5.	1001.99	-- Other		
		---Fit for human consumption		
6.	1001.99.11	---- Meslin	5.0	5.0
7.	1001.99.12	---- Wheat grain without husk	0.0	0.0
8.	1001.99.19	---- Other	0.0	0.0
		--- Other		
9.	1001.99.91	----Meslin	5.0	5.0
10.	1001.99.99	---- Other	5.0	5.0
	1005	Maize		
11.	1005.10.00	- Seed	0.0	0.0
	1005.90	- Other		
12.	1005.90.10	-- Popcorn	5.0	5.0
13.	1005.90.90	--Other	5.0	5.0
	1006	Rice		
	1006.10	- Rice in the husk		
14.	1006.10.10	-- Suitable for sowing	450 IDR/kg	450 IDR/kg
	1006.10.90	-- Other		
	1006.20	- Husked (brown) rice		

15.	1006.20.10	-- Thai Hom Mali	450 IDR/kg	450 IDR/kg
16.	1006.20.90	-- Other	450 IDR/kg	450 IDR/kg
	1006.30	- Semi-milled or wholly milled rice, whether or not polished or glazed:		
17.	1006.30.30	--Glutinous rice	450 IDR/kg	450 IDR/kg
18.	1006.30.40	-- Thai Hom Mali	450 IDR/kg	450 IDR/kg
		-- Other		
19.	1006.30.91	--- Parboiled rice	450 IDR/kg	450 IDR/kg
20.	1006.30.99	--- Other	450 IDR/kg	450 IDR/kg
	1006.40	- Broken rice		
21.	1006.40.10	-- Of a kind used for animal feed	450 IDR/kg	450 IDR/kg
22.	1006.40.90	-- Other	450 IDR/kg	450 IDR/kg
	1101	Wheat or meslin flour		
		- Wheat flour		
23.	1101.00.11	-- Fortified	10.0	5.0
24.	1101.00.19	-- Other	5.0	5.0
25.	1101.00.20	- Meslin Flour	5.0	5.0
	1103	Cereal, groats, meal, and pellets		
		- Groats and meals		
26.	1103.11.00	-- Of wheat	5.0	5.0
27.	1103.13.00	-- Of maize	5.0	5.0
	2303	Residues of starch manufacture and similar residues, beet pulp, bagasse, and other waste of sugar manufacture, brewing or distilling dregs and waste, whether or not in the form of pellets.		
28.	2303.30.00	- Brewing or distilling dregs and waste	5.0	5.0

Source: Ministry of Finance

Table 10. Exchange Rate

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	13,343	13,347	13,321	13,327	13,321	13,319	13,323	13,351	13,492	13,572	13,514	13,548
2018	13,413	13,707	13,756	13,877	13,951	14,404	14,413	14,711	14,929	15,227	14,339	14,481
2019	14,072	14,062	14,244	14,268	14,362	14,141	13,913	14,237	14,174	14,008	14,102	13,901
2020	13,662	14,234	16,367	15,157	14,733	14,302	14,653	14,554	14,918	14,690	14,187	14,105
2021	14,084	14,229	14,459	14,453	14,292	14,452	14,548	14,306	14,321	14,171	14,320	14,278
2022	14,392	14,369	14,306									

Source: Bank of Indonesia

Note: Exchange rate is 14,306 IDR/USD, as of March 11, 2022.

Attachments:

No Attachments