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KEY POINTS

- The COVID-19 pandemic has increased food security risks in Asia and the Pacific as strict quarantine measures and export bans on basic food items have affected all stages of food supply chains.
- Household food consumption and nutrition have been significantly affected by loss of jobs and income and limited access to food. Informal sector workers—70% of total employment in the region—in particular, are at higher risk.
- In prolonged lockdowns, shortages of labor and input supplies can reduce the scale of crop production while disrupted logistics limit the options of smallholder farmers on better priced markets.
- Swift and comprehensive policy interventions should focus on protecting consumers and public health; securing supply chains for producers; and promoting fair labor, trade, sound macroeconomic policies, and regional cooperation.
- Post-COVID-19 agriculture sector reforms should support a transition from a labor-intensive supply chain to a more resilient and efficient agriculture system including smart agriculture and mechanization.

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Food Security in Asia and the Pacific amid the COVID-19 Pandemic[1]

GROWING THREATS TO FOOD SECURITY DUE TO THE COVID-19 PANDEMIC

The coronavirus disease (COVID-19) pandemic has heightened food security risks in Asia and the Pacific. Disruptions to domestic and international food supply chains—caused as rising health risks led to major travel restrictions—have undermined food availability and accessibility.[2] Domestically, disruptions in the upstream food supply chains have arisen from mobility restrictions and worker illnesses during planting and harvesting, in addition to hindered operations in processing, trucking, logistics, and trading. Losses of employment and income are also reducing food consumption, leaving vulnerable groups at risk of hunger and malnutrition. Basic food handouts are often limited and may not meet the nutritional needs of children and pregnant women. Internationally, border closures and export restrictions could imply limited availability and affordability of certain food items for countries that rely on imports.

SUPPLY AND DEMAND DISRUPTIONS CAUSED BY LOCKDOWNS

Strict quarantine measures have been implemented worldwide to contain the spread of COVID-19. Generally, mobility has been limited, with shelter-in-place or stay-at-home rules imposed in some cases, except for essential or urgent needs, while border closures and lockdowns are broadly limiting the movement of goods and people (see Box 1 for specific cases in select Asian developing countries).

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[2] Food security is defined as the state wherein "all people, at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO 1996). It has been recognized as a universal human right for its central role in human development.

As the number of confirmed cases began to rise rapidly, many countries, including major crop producers in the region, were quick to impose lockdowns in late January before reaching the most stringent levels in late March or April (Figure 1a). The People's Republic of China (PRC) continued a strict lockdown for 2 months from late January in major cities including Wuhan, where the first COVID-19 outbreak was reported. The lockdown in Wuhan was lifted in early April, while international travel remains strictly regulated. Many of Asia's developing countries started easing lockdowns gradually in late April and May, with lingering uncertainties about the next pandemic phases.

However, lockdowns caused immediate, unwanted, and large-scale impacts on entire stages of food supply chains (Figure 2).

Supply Side

On the supply side, lockdowns prevented local and migrant workers from moving to farms, processing, and packaging facilities, many of which were already closed due to quarantine and sick workers.[3] Access to farm inputs—such as seeds, fertilizers, and crop protection products—became challenging. Potential impacts will likely be larger on labor-intensive food crops, including fruits, vegetables, dairy products, and meat processing.

In addition, capital investments in the agriculture sector are likely to be postponed or even canceled due to weakening economic prospects. Low energy prices, however, will help save costs for utilities and transportation for production, processing, and logistics, as well as lower the cost of energy-intensive fertilizer production requiring a large amount of natural gas.

As maritime shipping accounts for about 90% of global goods trade, disrupted port facilities hamper the distribution of imported foods. Due to the pandemic, additional time and costs are required in cargo handling. For example, health screening is required for crew and disembarkation is prohibited. Ports are also congested because of a lack of workers and transport to clear cargo, leaving refrigerated storage unavailable for fresh foods, while land transportation to or from ports is not sufficient (North 2020). Extended delays for food containers cause perishables to spoil and increase food waste.

The prices of staple foods such as rice and wheat have risen significantly in several developing economies in the region. This was in part due to adverse weather conditions in major producer countries in Southeast Asia, but more broadly driven by disruptions to production and distribution due to the pandemic, combined with panic buying. For instance, retail prices of rice in the Lao People's Democratic Republic and Thailand rose about 20% on average in January–April 2020 compared with the same months of 2019, but prices in India, Mongolia, Pakistan, and Sri Lanka, also rose 10%–20% (Figure 3a). Wheat prices have also climbed higher, particularly in Central Asia and South Asia, rising more than 25% in Kazakhstan, Pakistan, and Uzbekistan. Export bans also had impact on international prices of rice and wheat. International rice prices increased 16% against the 2019 average, while international wheat prices rose slightly, around 2%, as of 29 May (Figure 3b).[4]

Demand Side

On the demand side, the pandemic has significantly affected household food consumption through household income and mobility to groceries, restaurants, and other retail food shops (Figure 1b). As slower economies have led to job losses and reduced working hours, household incomes have declined. Lockdowns and restrictive stay-at-home measures are also limiting access to diverse sources of adequate and nutritious food, especially in countries and communities hit hard by the pandemic.

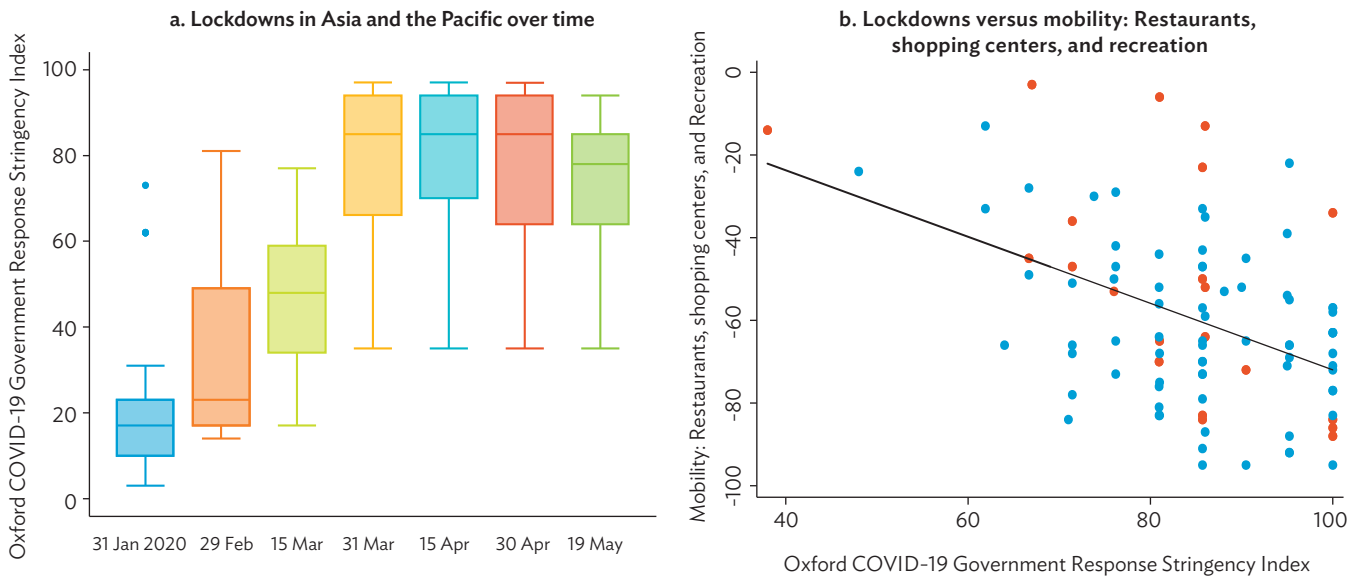
The impact of the pandemic on food demand will likely vary depending on the type of food along the food value chain. Panic buying and hoarding drove up prices of certain staple foods at the onset of lockdowns in some countries. Farmers in short value chains, such as for staple crops, may benefit from steady demand, while those in medium value chains, such as perishable crops, could face lower demand due to consumer income losses and closure of food service industries (Learning Lab, ISF Advisors, and the Feed the Future Initiative 2020). Disruptions in agriculture supply chains could disproportionately affect vulnerable households, including smallholder farmers and small businesses in the food service industries and informal workers, who are much more likely to lose their jobs.

A particular concern is the nutrition status of those most exposed and vulnerable to the COVID-19 crisis. As incomes and livelihoods of the poor and vulnerable have been threatened, their access to safe, diverse, and healthy food has been challenged. In Asia, it is estimated that 10.5 million children under five are suffering from wasting, 78 million children stunted, and 17 million overweight even before the pandemic impact (UNICEF 2020). As schools close due to the pandemic, school meal programs have been suspended, significantly affecting low-income children's access to healthy and balanced diets. Pregnant women, lactating mothers, and young children should have access to micronutrient-rich food such as fresh vegetables, fruits, fish, and milk. Most micronutrient-rich foods are highly perishable and highly vulnerable to disruptions in food supply chains and therefore to price hikes. This also puts these vulnerable groups at risk of micronutrient deficiency.

[3] Migrant workers do more than one-fourth of the world's farm work (FAO 2020a).

[4] International rice and wheat prices fell in May, compared with April, as panic buying and stockpiling moderated, while rice export restrictions in Viet Nam were lifted 1 May.

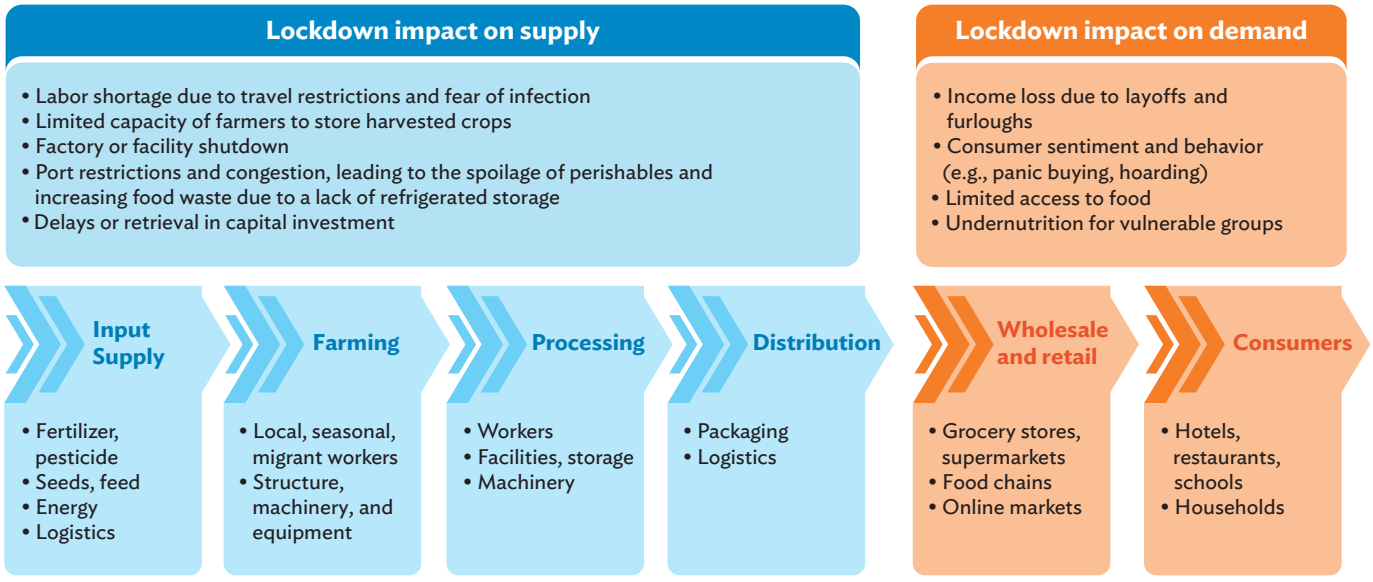
Figure 1. Lockdowns and Mobility



Notes: The box plots in panel a represent the distributions of the Oxford COVID-19 Government Response Stringency Index for 31 Asian countries; The Index is a composite indicator, with a range of 0 to 100 (most restrictive), that captures policy decisions on (i) school closing, (ii) workplace closing, (iii) cancellation of public event, (iv) restrictions on gathering size, (v) public transport closure, (vi) home confinement orders, (vii) restrictions on internal movement, (viii) international travel controls, and (ix) public information on COVID-19; Number of samples: 31 countries in Asia and the Pacific (panel a); 132 countries (panel b); Google's mobility data are calculated based on changes in visits and length of stay at different places with a baseline, which is a median value during the 5-week period in 3 Jan–6 Feb 2020; Red dots in panel b represent countries in Asia and the Pacific.

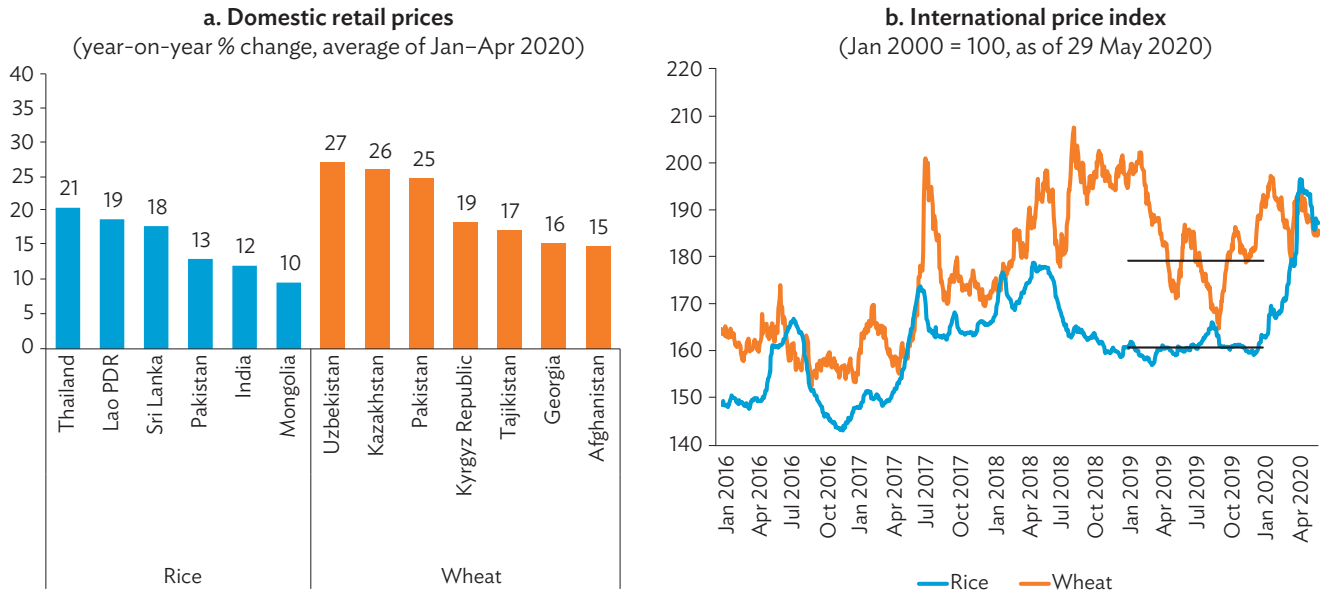
Sources: Schmidhuber, Pound, and Qiao (2020) at https://covidtracker.bsg.ox.ac.uk/ (accessed June 2020); Google Global Mobility Report. https://www.google.com/covid19/mobility/ (accessed May 2020).

Figure 2. Possible Lockdown Impact on Food Supply Chain



Source: Authors.

Figure 3. Rice and Wheat Prices



Lao PDR = Lao People's Democratic Republic.

Note: International prices are based on "free on board" export quotations in major shipment locations; black horizontal lines in panel b represent average prices in 2019.

Sources: International Grains Council. Grains and Oilseeds Index. https://www.igc.int/en/markets/marketinfo-goi.aspx (accessed 4 June 2020); Food and Agriculture Organization. Food Price and Monitoring Analysis Tool. https://fpma.apps.fao.org/giews/food-prices/tool/public (accessed 4 June 2020).

Box 1. Food Supply Chain Disruptions in Select Asian Countries

In **India**, food prices climbed sharply across the country as transportation services froze and fresh supplies became unavailable during lockdown. This hurt the bumper harvest of wheat in northern India, while the western city of Pune, where grapes are produced in abundance, had to seek student volunteers for harvest. In Maharashtra, Asia's largest onion trading market, transporting onion harvests was impeded as the fear of the virus made drivers and workers flee to their homes. Despite high demand for processed food, such as instant noodles, biscuits and snacks, food processing activities halted. Major producers such as Nestle and PepsiCo could not raise production as laborers moved back to their villages.

In **Central Asian countries** where 70%–80% of intra-regional trade is conducted by road, limited road transport disrupted fruit and vegetable distribution. Some border crossings were closed or operated under restricted hours, while drivers were forced to stay home, resulting in a shortage of drivers. Export bans have also affected food supplies in food-importing countries. In **Uzbekistan**, imports of flour and grain fell significantly as Kazakhstan imposed export bans on wheat. Imports of rice, soybeans, and sunflower seeds have also been affected as the Eurasian Economic Union set export bans on various commodities.

In **Indonesia**, where domestic production has failed to keep up with a rising population, the pandemic has restricted ability to import amid disruptions in global supply chains and distribution networks. Local disruptions in production and distribution have also occurred, amid oversupply in warehousing, processing, and distribution centers, causing farm-gate prices to decline. Provinces across the country also experienced deficits in key staples such as rice, garlic, sugar, chili peppers, eggs, and corn.

During lockdown in the **People's Republic of China**, transport of agricultural inputs was limited and labor was in shortage, while nearly every phase of the distribution channel for agricultural products was disrupted, from local buying to wholesaling, and from cross-region logistics to city consumption. Closures of restaurants and public canteens reduced demand for agricultural products, which led to large amounts of unsold seasonal vegetables and fruits or even unpicked in farms.

In **Papua New Guinea**, the pandemic compounded the stress in food systems already apparent from African swine fever and fall armyworm. This may significantly undermine food supply and human nutrition for rural villagers (80% of the population). COVID-19 is expected to disrupt supply chains of imported foods (rice and flour-based foods), as well as food produced domestically (sugar, eggs, poultry, pork-based products, and canned tuna).

Sources: Bourke and Kanua (2020); Eurasianet (2020); Fei and Ni (2020); Pothan, Taguchi, and Santini (2020); and Tantau (2020).

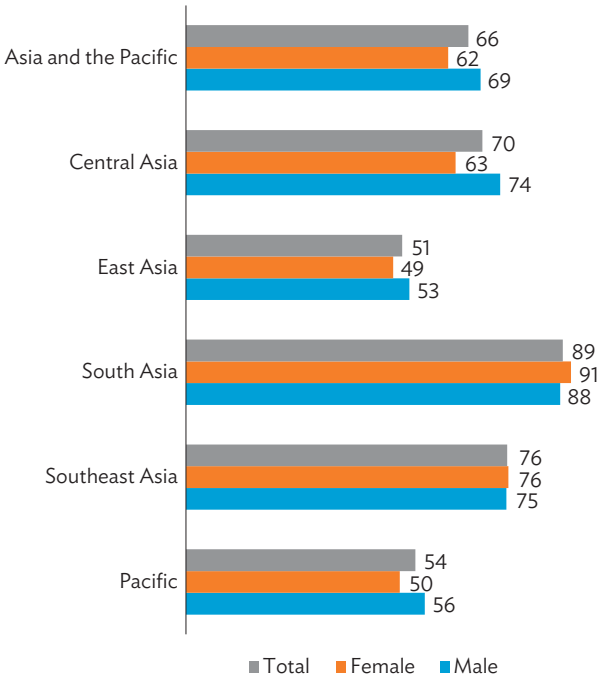
Impacts on vulnerable countries and communities

The pandemic-induced economic slowdown has had significant impact on vulnerable employment, which tends to be larger in developing economies. Around 80% of the global workforce was affected by full or partial workplace closures. The International Labour Organization (ILO 2020b) estimates that the pandemic caused a decline of 4.5% in working hours (equivalent to 130 million full-time jobs) globally in the first quarter of 2020, compared with the precrisis level.[5] The decline is expected to widen to 10.5% in the second quarter, which is equivalent to 305 million full-time workers. It is estimated that Asia and the Pacific suffered the greatest impact among world regions in the first quarter (a 6.5% decline or 115 million jobs) and a 10% decline in the second quarter.

Informal sector workers in the region (7 in 10 workers) are at particular risk given their limited access to social protection and low wages, requiring many to perform multiple jobs to sustain incomes (Figure 4). South Asia shows the highest share (89%) in informal employment, followed by Southeast Asia (76%) and Central Asia (70%). Bangladesh, India, and Nepal, where at least 9 in 10 workers are informal, would be at higher risk of impoverishment because of the crisis. In these subregions, the share of women in the informal sector is also very high. Earlier studies pointed to evidence that female income share exerts positive influence on household spending on food (Hopkins, Levin, and Haddad 1994; Frazao 1992). Income of informal workers is estimated to have fallen 22% in the region in the first month of the COVID-19 crisis, causing relative poverty rates of informal workers to rise to 36% from 22% before the crisis (ILO 2020b).[6]

The hardest hit economic sectors will be accommodation and food services, manufacturing, wholesale and retail trade, and real estate and business activities, according to the ILO's assessment using the latest economic and financial data (ILO 2020a). Wholesale and retail trade and accommodation and food services, accounting for 16% (115 million workers) of total employment in the region, has been severely impacted by almost full closure, worsened by a fall in demand (Figure 5). More than half of workers in these sectors are also female in all subregions, except for South Asia. Manufacturing (with 13% of total employment in the region), has also suffered severe domestic and global value chain disruptions. This includes automobiles and textiles, clothing, and leather and footwear, among others.

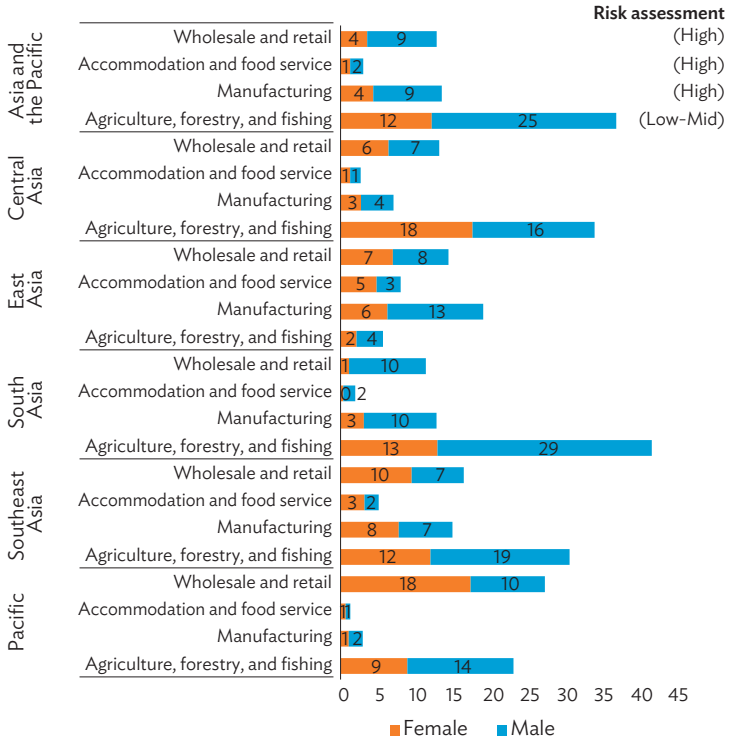
Figure 4. Informal Employment
(% of total employment, latest available year)



Note: Employment figures include both agriculture and non-agriculture activities.

Source: International Labour Organization. ILOSTAT. https://www.ilo.org/ilostat/ (accessed May 2020).

Figure 5. Employment Share by Sector
(% of total employment, latest available year)



Source: International Labour Organization. ILOSTAT. https://www.ilo.org/ilostat/ (accessed May 2020).

[5] The figures should not be interpreted as numbers of jobs actually lost, although reduction in work hours may increase the possibility of unemployment and loss of labor income.

[6] Relative poverty is defined as the proportion of workers with monthly labor income that falls below 50% of the median monthly labor income in the population.

In agriculture, even though the sector's economic risks are assessed lower, workers will likely be at higher risk of job losses or reduced working hours if agriculture supply chains remain disrupted. This is because agriculture is the largest sector in the region, accounting for 37% (266 million workers) of total employment, and a majority of waged agricultural workers are employed seasonally or casually and without social security or unemployment benefits (Hurst, Termine, and Karl 2005).

Past economic crises have also highlighted that migrant workers face higher unemployment risk. A fall in wages and employment of international migrant workers in host countries may significantly reduce remittances, which can be exacerbated by greater difficulty in transferring funds to home countries due to mobility constraints. The World Bank (2020) has projected about a 20% decline in remittance inflows to low- and middle-income countries in 2020 due to the COVID-19 pandemic, with the decline expected to be more severe in Central Asia and South Asia.[7] Remittance-dependent households in developing countries will likely be hit hard and their capacity to secure affordable food and basic nutrition compromised. As a result, domestic food production can be hurt, because half of remittances are spent on agriculture-related expenses in rural communities (Ponsot et al. 2017). In addition, quarantine measures have disproportionately affected internal (rural-to-urban) migrants in countries such as India, where lockdowns and travel restrictions have created a huge mass of stranded, unemployed internal migrants struggling to return home.[8]

INTERNATIOAL FOOD TRADE DISRUPTIONS

As seen in Figure 3b, export bans on basic food items further strain regional food security. Several countries have already implemented temporary trade restrictions aiming to ensure stable domestic food supply amid the COVID-19 pandemic.

- Viet Nam (the third-largest rice exporter after India and Thailand) imposed export bans on rice from 24 March to 30 April 2020. Cambodia also imposed rice exports bans for 5 April–20 May 2020. Myanmar suspended the issuance of new export licenses from 18 March to 30 April.

- Major wheat producers have also imposed export bans. The Russian Federation (the world's top wheat exporter), banned exports of processed grains from 20 March to 30 June, while Ukraine banned buckwheat exports from 9 April to 1 July. Kazakhstan implemented export restrictions on wheat and other commodities from 2 April to 1 September 2020.

- Other exporters with export restrictions include Armenia (vegetables and cereals), the Kyrgyz Republic (vegetables and cereals), and Thailand (eggs) as of 22 May 2020 (Laborde and Parent 2020).

Cereal consumption in many Asian developing economies is highly dependent on imports, while only a few exporters account for majority of external supplies (Figure 6). Economies in East Asia and the Pacific are all net cereal importers and nearly all economies in Central Asia depend heavily on imports. Cereal importers usually rely on close neighbors who are the net exporters of cereal crops (Table 1). In South Asia, India and Pakistan are the main rice exporters, while half of Southeast Asian countries are net exporters, with Thailand and Viet Nam as the largest exporters of rice. Along with the Russian Federation, Kazakhstan is a major wheat supplier for Central Asia, while the Pacific relies heavily on Australia.

Given the high concentration in sources of food imports, trade restrictions and disruptions in major import trading partners are likely to negatively affect food security in many of Asia's developing countries. For example, wheat export bans by Kazakhstan could significantly impact other Central Asian countries, many of which are commodity-export-dependent and thus already face higher import food prices, in part because of depreciating local currencies against the United States (US) dollar as global demand for commodities falls. Similarly, Nepal, Bangladesh, and Sri Lanka would be vulnerable to trade disruptions originating from India given their high dependence on rice imports from there. Malaysia, Indonesia, and the Philippines would be hit hard if Viet Nam were to limit rice exports.

Comparison with the 2007–2008 food price crisis

During the food crisis of 2007–2008, prices of rice, wheat, and maize increased substantially globally. The cereal price nearly doubled in 2008 compared with the precrisis level in 2005. On the production side, the main causes included poor harvests of wheat due to severe droughts, lower grain stocks, and a rise in oil prices that led to higher prices of farm inputs such as fertilizer (Table 2). Demand-side factors included rapid global economic growth, widespread inflation, and crop demand for biofuels (Wiggins, Keats, and Compton 2010).[9] The depreciation of the US dollar attracted more cereal import demand, pushing up prices, as the US dollar-denominated price became more affordable.

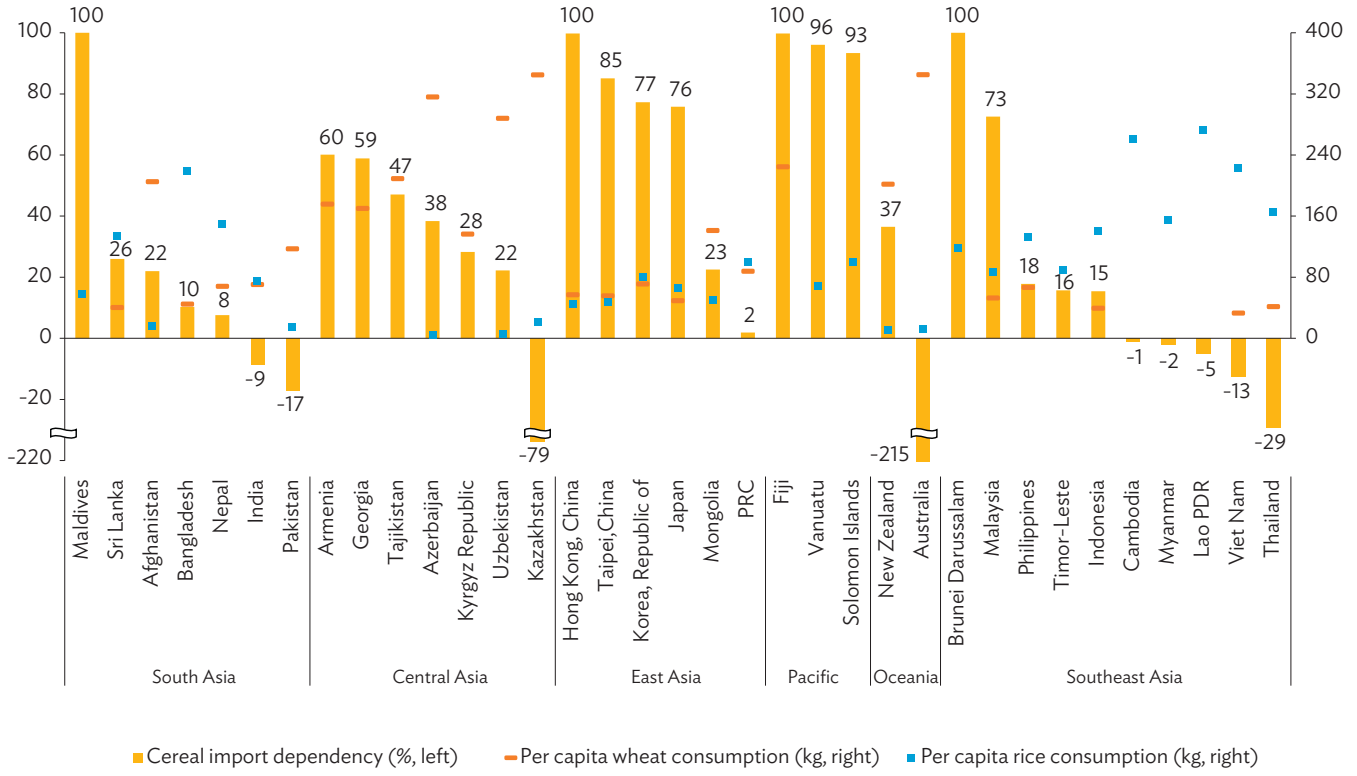
Restrictive trade policies, such as export bans, also drove up food prices during 2007–2008. Thirty-three countries had trade restrictions, aiming to insulate domestic food prices from the

[7] The top-five countries with the highest remittance inflows in 2019 are India ($83.1 billion); the PRC ($68.4 billion); the Philippines ($35.2 billion); Pakistan ($22.5 billion), and Bangladesh ($18.3 billion). Measured as a percentage of gross domestic product, remittances to the following five economies ranked highest: Tonga (37.6%); the Kyrgyz Republic (29.2%); Tajikistan (28.2%); Nepal (27.3%); and Samoa (16.2%) (Global Knowledge Partnership on Migration and Development, https://www.knomad.org/data/remittances [accessed April 2020]).

[8] The number of internal migrants is two-and-a-half times that of international migrants. The PRC and India each have over 100 million internal migrants (World Bank 2020).

[9] While production recovered and food prices fell toward the end of 2008, world prices for wheat and maize doubled again between the second half of 2010 and the first half of 2011. This was mainly attributed to wheat crop damage in the Russian Federation and a subsequent export ban, as well as poor growing conditions for maize in the US and a weakening US dollar.

Figure 6. Cereal Import Dependency Ratio (2011–2013) and Consumption of Rice and Wheat per Capita (2018)



kg = kilogram; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China; Cereal import dependency (%) = (cereal net imports)/(cereal production + cereal net imports) * 100.

Note: Negative values indicate that the economy is a net exporter of cereals.

Source: Food and Agriculture Organization. Food Price and Monitoring Analysis Tool. https://fpma.apps.fao.org/giews/food-prices/tool/public (accessed 19 May 2020); United States Department of Agriculture. Production, Supply, and Distribution Database. https://apps.fas.usda.gov/psdonline/app/index.html#/app/downloads (accessed 29 April 2020).

international price surge. However, such policy measures ended up leading to even higher international prices, aggravating food insecurity in net importer countries and inflicting long-term damage on the international food trading system. Moreover, about a third of food policies taken by Asia's developing countries during 2007–2008 were trade-related measures, such as export restrictions and lower import tariffs; the share of such measures increased to 40% in 2008 from 17% in 2007 as food prices soared. Martin and Anderson (2011) estimate that 45% of the increase in rice prices and 30% of the increase in wheat prices resulted from trade restrictions during the crisis.

Compared with the 2007–2008 food price crisis, the current food security concern is mainly driven by supply disruptions and logistics constraints caused by quarantine and lockdown measures. As of May and since the COVID-19 outbreak, 22 countries had implemented restrictive food trade policy measures. Learning lessons from the 2007–2008 food crisis, the region's policy makers need to be careful not to turn a health crisis into a food crisis, by keeping food supply chains secure and functioning and mitigating pandemic impact on vulnerable groups. Policy responses to COVID-19 in Asia's developing countries have so far focused more on social protection and production support than on banning food exports.

KEY FACTORS FOR FOOD SECURITY IN CASE OF A PROLONGED COVID-19 PANDEMIC

The COVID-19 pandemic is affecting both food supply and demand with uncertain effects on food prices. The likely path of food prices will be subject to the duration of the pandemic, the dynamics of food supply and demand, as well as policy actions taken to mitigate effects (Schmidhuber, Pound, and Qiao 2020).

Table 1. Bilateral Trade Flows of Rice and Wheat for Select Importers (% of total imports, 2018)

a. Rice

Exporter/Importer	LAO	BAN	NEP	INO	SRI	PHI	MAL	KAZ
Thailand	94	7	0	42	0	56	54	0
Viet Nam	1	1	0	20	0	27	27	0
India	0	82	100	18	77	5	5	0
Pakistan	0	2	0	16	16	4	7	94
Rest of the world	5	8	0	3	6	9	8	6
Total	100	100	100	100	100	100	100	100

b. Wheat

Exporter/Importer	AZE	UZB	FIJ	TAJ	AFG	ARM	GEO	MON	KGZ	MAL	PHI
Russian Federation	71	0	0	0	0	94	86	100	0	9	14
Kazakhstan	29	100	0	100	72	0	14	0	99	0	0
Australia	0	0	99	0	0	0	0	0	0	50	22
United States	0	0	0	0	0	1	0	0	0	14	35
Ukraine	0	0	0	0	0	0	0	0	0	9	23
Rest of the world	0	0	1	0	28	5	0	0	1	18	5
Total	100	100	100	100	100	100	100	100	100	100	100

AFG = Afghanistan, ARM = Armenia, AZE = Azerbaijan, BAN = Bangladesh, INO = Indonesia, FIJ = Fiji, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, LAO = Lao People's Democratic Republic, MAL = Malaysia, MON = Mongolia, NEP = Nepal, PHI = Philippines, SRI = Sri Lanka, TAJ = Tajikistan, UZB = Uzbekistan.

Note: Calculation is based on trade volumes in metric tons.

Source: United Nations Commodity Trade Database. https://comtrade.un.org/ (accessed April 2020).

Table 2. Major Factors Contributing to Higher Food Prices in the 2007–2008 Food Crisis and the COVID-19 Pandemic

	Food price crisis, 2007–2008	COVID-19 Pandemic (2020, as of 22 May)
Main factors	• **Supply:** Poor harvests, lower grain stocks, higher oil prices ($86/barrel on average; 2007–2008) • **Demand:** Rapid growth of global economy, inflation, crop (maize) demand for biofuels • **Policies:** Export bans and restrictions, lowering import tariffs, restocking • **Other:** Weak US dollar	• **Supply:** Lockdowns and movement restrictions create logistics problems, low energy prices ($39 on average, Jan–Apr 2020), adverse weather conditions • **Demand:** Panic buying, hoarding for staple foods • **Policies:** Export bans and restrictions
Trade restrictions	• Adopted by 33 countries • Share in world market of calories: 19% • On rice: 17 countries including CAM, IND, INO, PAK, PRC, THA, and VIE • On wheat: 13 countries including ARG, KAZ, PRC, RUS, and UKR • On maize: 6 countries including IND, PRC, and UKR	• Adopted by 22 countries (13 are active) • Share in world market of calories: 5% • On rice: 3 countries (CAM, MYA, VIE) • On wheat: 6 countries including KAZ, RUS, and UKR
Food policies in Asian developing countries	• Total number of policies: 132 (35 in 2007 → 97 in 2008) • Consumer-oriented: 20% (22% → 19%) • Producer-oriented: 43% (53% → 39%) • Trade-related: 34% (17% → 40%) • Macroeconomic: 4% (18% → 2%)	• Total number of policies: 153 • Consumer-oriented: 42% • Producer-oriented: 45% • Trade-related: 8% • Macroeconomic: 5%

ARG = Argentina, CAM = Cambodia, IND = India, INO = Indonesia, KAZ = Kazakhstan, MYA = Myanmar, PAK = Pakistan, PRC = People's Republic of China, RUS = Russian Federation, THA = Thailand, VIE = Viet Nam, UKR = Ukraine.

Note: Average oil prices are calculated using West Texas Intermediate spot prices; Consumer-oriented policies mainly include social protection, market management, and nutrition and health assistance; Producer-oriented policies mainly include production support and market management.

Source: Food and Agriculture Organization. Food and Agriculture Policy Decision Analysis Database. http://www.fao.org/in-action/fapda/tool/index.html#main.html (accessed 23 May 2020); Laborde and Parent (2020); Wiggins, Keats, and Compton (2010).

This section discusses major factors critical for food security prospects if lockdowns are prolonged by a second or more waves of the pandemic; or are somewhat eased but remain restrictive relative to the pre-pandemic period for the next several months.

Assessment of supply and demand

On the supply side, the food supply chain has been disrupted by domestic lockdowns and international port closures. However, international prices of rice and wheat have not risen to alarming levels similar to previous food crises, as food supplies and inventories remain relatively high. Stock-to-use ratios of rice and wheat, which measure the extent of downward pressure on prices for the past several years have remained well above 2007–2008 food crisis levels (Figure 7a and 7c). In individual countries, however, there are some indications of low stock, particularly in heavy wheat-consuming countries (and importers) in Central Asia (Figure 7b and 7d).

On the demand side, food consumption is holding up and showing signs of resilience. But sentiment is growing that prolonged lockdowns and decelerating economic activity will hinder access to food and put downward pressure on food prices. The significant economic slowdown and rising job and income losses will hit vulnerable countries and communities particularly hard. As economies slow and currencies likely depreciate, food-import-dependent countries in particular will struggle to find financial resources to import food. Similarly, low-income, unemployed, and dislocated workers will have difficulty buying food. As food demand declines, lower food prices may hurt farmers and the agriculture sector.

Challenges in planting, harvesting, and post-harvest stages

Extension of lockdowns and travel restrictions could create significant disruptions along the food supply chain as peak planting and harvesting seasons have already started or are nearing. Peak planting of rice generally starts in May and June, and some countries are already harvesting (Figure 8). Peak planting of wheat starts in April and May, and harvesting generally begins in May. Shortage of labor and input supplies, if continued, could reduce the scale of production in planting, harvesting, and preprocessing, while less availability and quality control of inputs could raise the probability of production failures. Labor shortages and travel restrictions during extended lockdowns would have a greater impact on the supply of high-value, labor-intensive crops such as fruits and leafy vegetables.

A disruption of logistics could pressure farmers to sell produce quickly, reducing their choice of better-priced markets. Smallholder farmers could face lower farmgate prices as the lack of transport and logistics force them to sell produce at much lower prices, raising the risk of lost income. Prolonged lockdowns could worsen the financial burden of farmers as loan payment dues approach, payments are missed, or loans grow. Farm incomes could also be hurt as the food services sector, which accounts for considerable demand for crops, remains closed or is limited and exports are interrupted by fewer shipments. The impact will be more severe on smallholder farmers with little savings from harvests and returns from earlier sales to afford immediate working capital.

Food trade policies

Food trade restrictions, if adopted by more countries, may heighten food insecurity, as witnessed during the 2007–2008 food crisis. However, there have been a few collective agreements, though not binding, to facilitate food trade as well as to work out logistics problems despite quarantine and movement restrictions. Groups of countries, such as the G20 and Association of Southeast Asian Nations (ASEAN) have committed to cooperate for food security by agreeing not to create unnecessary barriers to trade or disruptions to global food supply chains (G20 2020; ASEAN 2020). The Food and Agriculture Organization, the World Trade Organization, and the World Health Organization also issued a joint statement in March calling for greater international cooperation: "In the midst of the COVID-19 lockdowns, every effort must be made to ensure that trade flows as freely as possible, specially to avoid food shortage" (FAO 2020b).

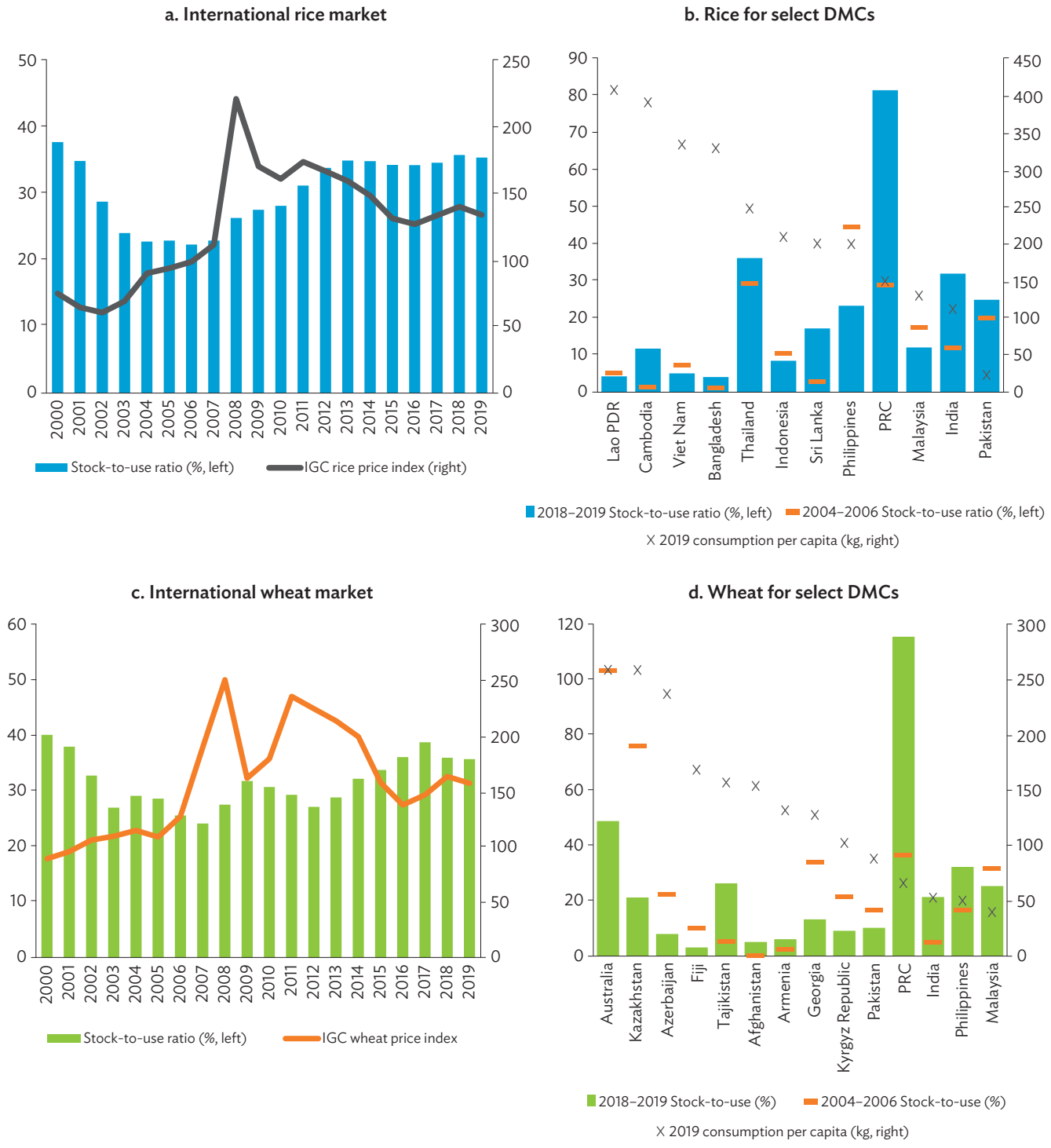
A significant increase in free trade agreements (FTAs) since the 2007–2008 food price crisis would also contribute to fewer trade restrictions. The cumulative number of bilateral and plurilateral FTAs in force stands at 303 globally as of 20 May 2020, increasing 67% compared with 182 in 2008. The number of FTAs in which at least one or more developing Asian countries are signatories also significantly increased 76% from 78 in 2008 to 137 in 2020 (WTO 2020). The latest large trade deals include the Comprehensive and Progressive Trans-Pacific Partnership Agreement and the Regional Comprehensive Economic Partnership.[10]

Energy prices

Current low energy prices will likely reduce the likelihood of food price inflation. Energy is widely used in primary (fuel, fertilizer production) and secondary (processing, storage, distribution) food production. Oil price movements explain more than 60% of food price fluctuations (Taghizadeh-Hesary, Rasoulinezhad, Yoshino 2019). Based on the April 2020 forecasts, the Energy Information Agency projects the price of energy to drop in the second quarter of 2020 ($20 per barrel in June) due to weak energy demand, then slowly recover from the third quarter onward ($41 on average in 2021, which is still historically low) (Figure 9).

[10] The Comprehensive and Progressive Trans-Pacific Partnership Agreement is composed of 11 economies with a combined gross domestic product of $13.5 trillion and a population of 495 million. It was signed on 8 March 2018 and came into force in December 2018 between Australia, Canada, Japan, Mexico, New Zealand, and Singapore, and entering into force in January 2019 for Viet Nam. Meanwhile, the Regional Comprehensive Economic Partnership started in 2012 among 16 nations—all ASEAN members and 6 trading partners including Australia, India, Japan, New Zealand, the PRC, and the Republic of Korea—that account for 32% of global gross domestic product, 28% of global trade, and a population of 3.5 billion. With India leaving due to concerns over hurting domestic producers, the remaining 15 members are aiming for an agreement in 2020.

Figure 7. Stock-to-Use Ratio for Rice and Wheat

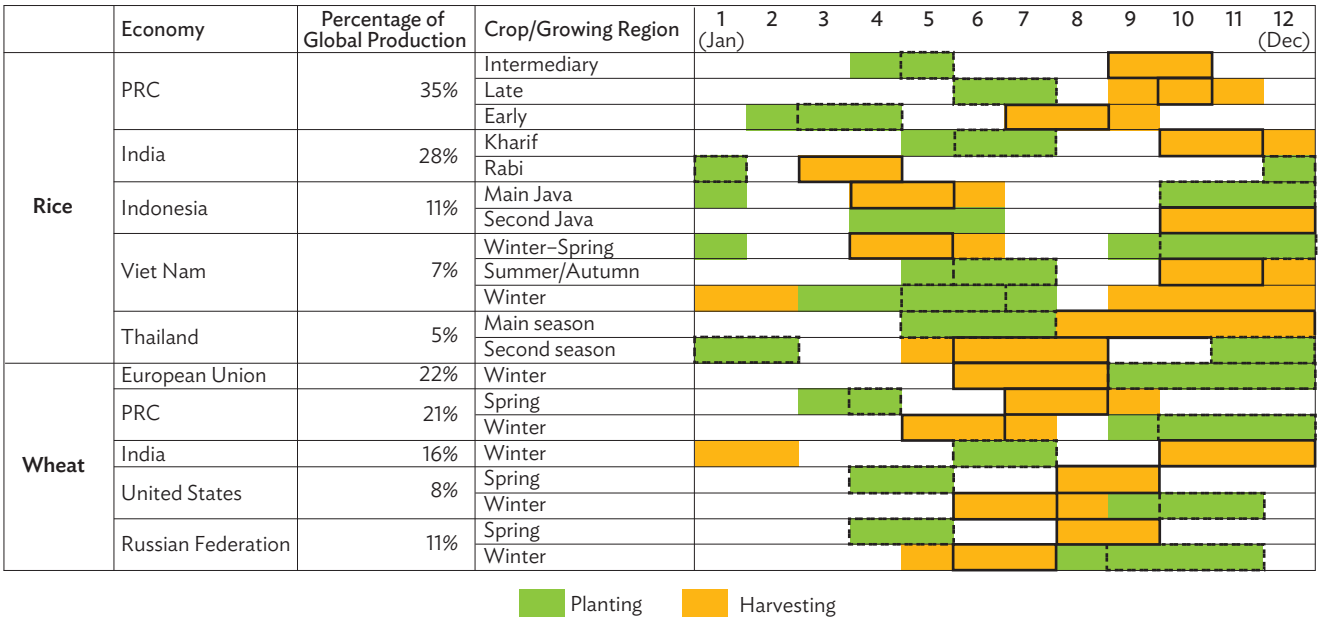


DMC = developing member country, IGC = International Grains Council, kg = kilogram, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Sources: Food and Agriculture Organization. Food Price and Monitoring Analysis Tool. https://fpma.apps.fao.org/giews/food-prices/tool/public; International Grains Council. Grains and Oilseeds Index. https://www.igc.int/en/markets/marketinfo-goi.aspx; United States Department of Agriculture. Production, Supply, and Distribution Database. https://apps.fas.usda.gov/psdonline/app/index.html#/app/downloads (all accessed April 2020).

Figure 8. Planting and Harvesting Calendar for Rice and Wheat, 2016

	Economy	Percentage of Global Production	Crop/Growing Region
Rice	PRC	35%	Intermediary
			Late
			Early
	India	28%	Kharif
			Rabi
	Indonesia	11%	Main Java
			Second Java
	Viet Nam	7%	Winter–Spring
			Summer/Autumn
			Winter
	Thailand	5%	Main season
			Second season
Wheat	European Union	22%	Winter
	PRC	21%	Spring
			Winter
	India	16%	Winter
	United States	8%	Spring
			Winter
	Russian Federation	11%	Spring
			Winter

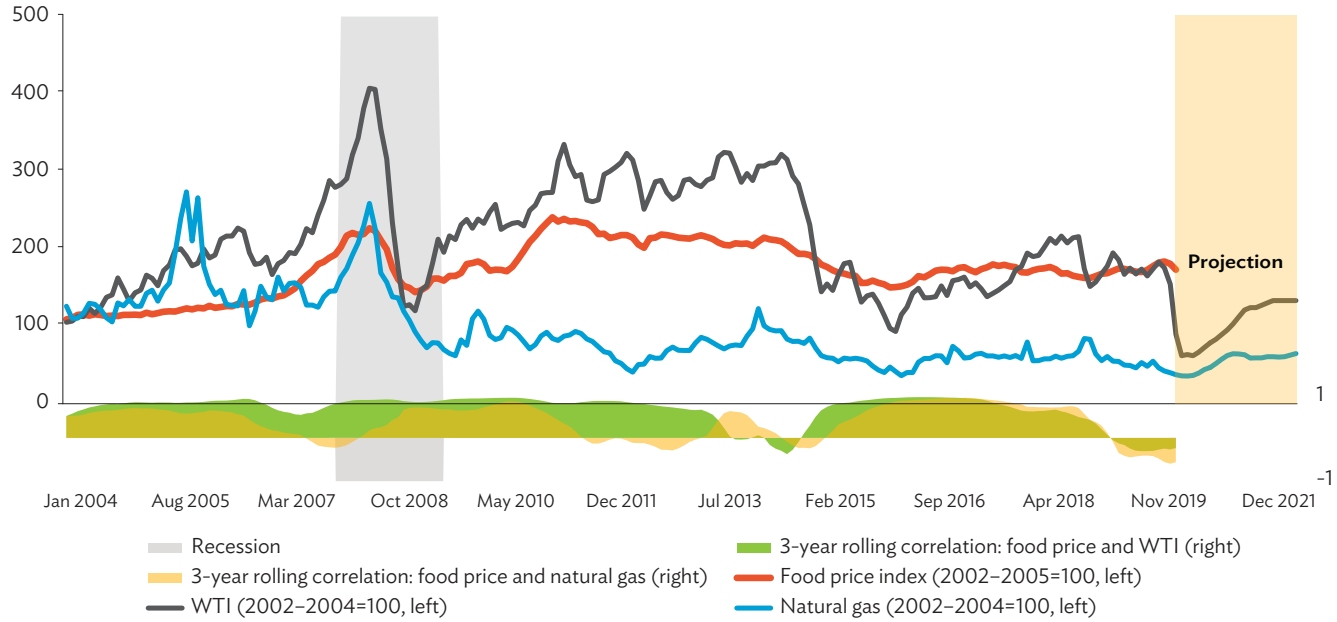


PRC = People's Republic of China.

Notes: World production shares are based on the 2018–2019 production estimates. Squares with dotted and solid lines represent peak seasons for planting and harvesting, respectively.

Source: Agriculture Market Information System. http://www.amis-outlook.org/amis-about/calendars/en/ (accessed April 2020).

Figure 9. Food and Energy Prices



WTI = West Texas Intermediate.

Souces: Food and Agriculture Organization; Federal Reserve Bank of St. Louis; US Energy Information Agency (accessed April 2020).

POLICY IMPLICATIONS AND ADB'S ROLE

The COVID-19 pandemic has disrupted food availability and accessibility, especially in countries with strong containment measures, and concerns over food affordability have increased for vulnerable countries and communities as slower economic growth hurts jobs and incomes. To face these unprecedented challenges, governments should adopt comprehensive, holistic approaches to improve food availability, accessibility, and affordability; and act swiftly to mitigate supply bottlenecks and socioeconomic impacts on the poor and most vulnerable. Necessary policy measures range from domestic interventions to protect consumers and public health, secure supply chains for producers and trade, and macroeconomic policies as well as regional cooperation.

The Asian Development Bank (ADB) has acted swiftly to support its developing member countries (DMCs) as they fight the COVID-19 pandemic. On 18 March 2020, ADB announced a $6.5 billion initial package to address the immediate financial needs of its DMCs. On 13 April, it established the COVID-19 pandemic response option, which expands its total package to about $20 billion to finance countercyclical expenditures, part of ADB's Countercyclical Support Facility (ADB 2020).[11] Under the facility, ADB has been rapidly mobilizing resources to provide emergency assistance for its DMCs to mitigate acute COVID-19 impacts and facilitate socioeconomic recovery.

The COVID-19 pandemic has also revealed the structural vulnerability of the global agriculture supply chain. To enhance resilience and productivity, it is crucial that post-COVID-19 reforms strengthen supply-chain management by transitioning to automation and mechanization from a labor-intensive supply chain. ADB continues to work closely with its DMCs through ongoing or planned loans and grants to take this opportunity to enhance efficiency and competitiveness in food supply chains, reduce risks along the value chain, and strengthen food security in the region.

Immediate and short-term support for food security

For consumers. Increasing coverage, relaxing conditionalities, and enhancing the benefits of social protection programs, particularly during lockdowns, is critical to ensure that vital support reaches those disproportionately affected by COVID-19's health and economic impacts.

ADB provides support to supplement DMCs' immediate food and nutrition policy measures targeting vulnerable groups, including those already exposed to chronic food insecurity. For instance, ADB launched the Rapid Emergency Supplies Provision Project for the Philippines, which will provide installments of food to support the most vulnerable households. For the Pacific countries, ADB's regional technical assistance will identify gender-responsive social protection policies and investments and improve capacities for social protection service deliveries. In India, ADB's COVID-19 Active Response and Expenditure Support Program will contribute to social protection for more than 800 million people, including families below the poverty line, farmers, women, senior citizens, people with disabilities, low wage earners, and construction workers. ADB approved $50 million in loans and grants for the Kyrgyz Republic to support its social protection measures, including food packages for vulnerable, female-led families.

For producers. Immediate support can be provided to enhance smallholder farmers' access to markets. During lockdown, it is challenging for these farmers in rural areas, where up-to-date information is limited to knowing where ad hoc or non-regular markets are taking place. Even when they know, it is often difficult to arrange transportation under lockdown and the offered prices are less likely to be high enough to recover input and labor costs. To overcome such challenges, some farmers and local governments are experimenting with new approaches. Groups of farmers in India, for example, exchanged information using online platforms, aggregated produce at the group level, arranged transportation on their own, and directly sold their produce at markets not affected by lockdown (Mishra 2020).[12]

It is also important to provide financial relief and liquidity support to farmers, agribusinesses, and food processors under financial stress. Many governments have extended and relaxed credit conditions for small farmers, rural communities, and small and medium-sized enterprises in agriculture. Fiscal measures in Asian developing countries can be oriented to debt rescheduling or restructuring and short-term working capital provision to farmers, agri-firms, and other stakeholders of the food chain under immediate liquidity stress as they face lower income, constrained supply chains, repayment of existing loans, and reduced access to finance.

ADB assists its DMCs through necessary budget support. In its initial response to the pandemic, ADB provided about $1.8 billion in nonsovereign operations through (i) increases in existing programs, such as the Trade Finance Program and the Microfinance Risk Participation and Guarantee Program; (ii) reallocations within existing programs, such as the Supply Chain Finance Program; and (iii) tailor-made projects and financial intermediation loans that address the impacts of COVID-19, including activities that improve access to health care and relief and restore income-generating activities (ADB 2020).

[11] The Countercyclical Support Facility, established in 2009 and mainstreamed in 2011, requires the following for eligibility: a DMC needs to (i) have experienced, or be likely to experience, a severe decline in economic growth; (ii) have an effective countercyclical development expenditure/policy program to be supported by the Countercyclical Support Facility and be committed to its implementation; (iii) have a monetary policy that addresses price stability as one of its core objectives, controlled inflation, and sound public finances; (iv) be taking credible steps to address the underlying structural issues, where the DMC has structural weaknesses that increase its vulnerability to exogenous shocks; (v) have confirmed its debt sustainability, including potential impacts of the prospective Countercyclical Support Facility assistance; and (vi) have held constructive consultations with the International Monetary Fund.

[12] In the Indian state of Rajasthan, while food grains used to be sold only at the markets regulated by the Agricultural Produce Market Committees, the state set up two private procurement centers as part of the country's emergency response, and their smooth operations were supported by the local administration.

Free trade and regional cooperation. Countries should collaborate to avert food shortages and price spikes by ensuring free trade and strengthening regional mechanisms for food security. If one country starts implementing export bans, all others will follow, and it would be catastrophic for markets, as seen in past food crises. Enhanced regional mechanisms can provide an additional food supply safety net. For example, the ASEAN Plus Three Emergency Rice Reserve (APTERR) was established as a permanent regional cooperation mechanism in 2011 to strengthen food security, poverty alleviation, and malnourishment eradication without distorting normal trade among its member economies. APTERR can effectively address short-term emergency situations, although it may not be adequate to address extreme price volatility (Mane 2014). To date, APTERR has stockpiled 787,000 tons of rice as emergency reserves, with 87,000 tons contributed by ASEAN member countries and 700,000 tons from the PRC, Japan, and the Republic of Korea.

ADB has a role to play in supporting and strengthening such a regional food reserve or establishing a special food security fund. Early on, ADB's assistance helped ASEAN implement its Integrated Food Security Framework and Strategic Plan of Action for Food Security in the wake of the food price crisis in 2007–2008 (ADB 2016). ADB's assistance also supported the transition of APTERR from a pilot project to a permanent scheme through technical advice and financial support. ADB continues to support APTERR. In 2016 for instance, ADB provided technical assistance for a technical meeting on how APTERR can improve program implementation, enhance the Food Emergency Monitoring and Information, as well as developing subsidiary regulations of the APTERR Secretariat.

Medium- and long-term support for the agriculture supply chain

- **Direct marketing through online platforms.** This helps facilitate trading of produce, avoid food waste, and mitigate loss of farmers' profits by reducing multiple layers of intermediaries. Farmers need to enhance quality control and certification of produce to successfully participate in digital marketing and gain trust from online customers. Capacity building for farmers on market-favored quality standards and production and post-harvest handling, as well as a quality input supply mechanism, will be required to facilitate this decentralized marketing.

- **Enhanced price risk management system.** An advanced information system that records land use on crop production, market arrival, traded stocks, and delivery schedules combined with weather information can facilitate collaborative planning among agricultural value chain actors. Most importantly, when demand forecasts and price prediction models are linked to farmers' planning of production and increased use of regulated, electronic warehouse receipts, it will help stabilize supply chains, require less government intervention, and reduce price risks for both farmers and consumers. Establishment of such price risk management will require better data collection, validation, and management platforms and enhanced logistic infrastructure.

- **Movement toward agricultural technology.** Longer-term responses to food insecurity should also account for the impacts of climate change, environmental degradation, and shrinking natural resources, such as water and arable land on food security (ADB 2017). This calls for accelerating the movement toward agricultural technology-based farming and value chain development and automation. Wider adoption of agricultural technology such as remote sensing and geographic information system–based land and soil management will help address constraints on scaling up, including lack of financing or public–private cooperation, cumbersome regulatory environments, growing costs and limited availability of agricultural labor in some developing countries, and policy inconsistencies in various economic sectors.[13]

- **Institutional and legislative reforms.** The COVID-19 crisis should be used as an opportunity for developing economies to initiate or start implementing long-sought agricultural reforms.[14] A shift toward digital agriculture and mechanization may well accelerate, and Asia's developing countries will need to cope with this new environment to make the agriculture sector more competitive. The reforms should also realign public and private sector roles in agricultural input supply, food safety, value chain infrastructure, quality assurance, and extension.

- **Targeted support to poor and smallholder farmers through agricultural reforms.** Adequate support should be provided for smallholder farmers and low-income agricultural communities to contribute to and benefit from the agricultural reform. There should be efforts to improve poor and smallholder farmers' access to available and affordable digital infrastructure and training, rural financing, marketing opportunities through economies of scale and entrepreneurial skills, value chain infrastructure, and engagement in small and medium-sized agriculture enterprises and other off-farm income generation activities.

  Finally, to ensure that poor and smallholder farmers benefit from new business opportunities, policy reforms should promote fair labor, market transparency, digitized land use planning and management, and food quality control.

[13] In water resources management projects in Cambodia, India, Pakistan, and Viet Nam, for example, ADB uses remote sensing and satellite imaging for geographic identification of water shortages and the duration of dry periods, irrigation infrastructure mapping, and crop area monitoring. Geographic information systems are also used to visualize and analyze geo-coded data. Technology-based storage facility management and cold chain systems could significantly reduce food losses and waste that currently account for around one-third of all food produced globally (FAO n.d.).

[14] India, for example, announced its plan as the COVID-19 package in May 2020 to amend the Essential Commodities Act and agriculture marketing reforms in order to deregulate key food commodities to help provide price assurance for farmers, and allow farmers to choose the market by removing interstate trade barriers and providing e-trading of agricultural produce (PTI 2020).

REFERENCES

Asian Development Bank (ADB). 2016. *ASEAN-ADB Cooperation Toward the ASEAN Community: Advancing Integration and Sustainable Development in Southeast Asia*. Manila.

———. 2017. *Safe, Nutritious, and Affordable Food for All: ADB Food Security Forum 2016 Discussions and Recommendations 2017*. Manila.

———. 2020. ADB's Comprehensive Response to the COVID-19 Pandemic. Policy Paper. Manila.

ASEAN. 2020. Statement of ASEAN Ministers on Agriculture and Forestry in Response to the Outbreak of the Coronavirus Disease (COVID-19) to Ensure Food Security, Food Safety and Nutrition in ASEAN.

Bourke, M. and M. Kanua. 2020. Potential Response to COVID-19 in PNG: Support for Food Production. *DevPolicyBlog*. https://devpolicy.org/potential-response-to-covid-19-in-png-support-for-food-production-20200421-1.

Eurasianet. 2020. Uzbekistan Shores Up Food Defenses as Coronavirus Rages. 4 April. https://eurasianet.org/. uzbekistan-shores-up-food-defenses-as-coronavirus-rages.

Food and Agriculture Organization (FAO). 1996. Report of the World Food Summit. 13–17 November. http://www.fao.org/3/w3548e/w3548e00.htm.

———. 2020a. A Battle Plan for Ensuring Global Food Supplies during the COVID-19 Crisis. http://www.fao.org/news/story/en/item/1268059/icode/.

———. 2020b. Mitigating Impacts of COVID-19 on Food Trade and Markets. Joint Statement by QU Dongyu, Tedros Adhanom Ghebreyesus, and Roberto Azevedo, Directors-General of FAO, WHO, and WTO. 31 March. http://www.fao.org/news/story/en/item/1268719/icode/.

———. n.d. Food Loss and Food Waste. http://www.fao.org/food-loss-and-food-waste/en/.

Fei, S. and J. Ni. 2020. Food Systems and COVID-19: A Look into China's Responses. FAO. http://www.fao.org/in-action/food-for-cities-programme/news/detail/en/c/1270350/.

Frazao, J. 1992. Food Spending by Female-Headed Households. *USDA-ERS Technical Bulletin.* No. 1806. Washington, DC: USDA.

G20. 2020. Ministerial Statement on COVID-19. G20 Extraordinary Agriculture Ministers Meeting. Virtual Meeting, 21 April 2020. https://g20.org/en/media/Documents/G20_Agriculture%20Ministers%20Meeting_Statement_EN.pdf.

Hopkins, J., C. Levin, and L. Haddad. 1994. Women's Income and Household Expenditure Patterns: Gender or Flow? Evidence from Niger. *American Journal of Agricultural Economics.* 76 (5). pp. 1219–1225.

Hurst, P., P. Termine, and M. Karl. 2005. Agricultural Workers and Their Contribution to Sustainable Agriculture and Rural Development. http://www.fao.org/tempref/docrep/fao/008/af164e/af164e00.pdf.

International Labour Organization (ILO). 2020a. ILO Monitor. COVID-19 and the World of Work. Third edition: Updated Estimates and Analysis. 7 April. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_740877.pdf.

———. 2020b. ILO Monitor. COVID-19 and the World of Work. Third edition: Updated Estimates and Analysis. 29 April. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf.

Laborde, D. and M. Parent 2020. Food Export Restrictions in the Era of Covid-19. https://public.tableau.com/profile/laborde6680#!/vizhome/ExportRestrictionsTracker/FoodExportRestrictionsTracker.

Learning Lab, ISF Advisors, and The Feed the Future Initiative. 2020. High-Risk Households Dependent on, and Critical for, Food Supply Chains. 7 May. *Rural & Agricultural Finance Learning Lab.* https://www.raflearning.org/post/new-covid-19-emergency-briefing-high-risk-households-dependenton-and-critical-for-food-supply.

Mane, R. 2014. Assessing Food Policy Options in Asia to Reduce Price Volatility of Rice Market. Theses and Dissertations. https://scholarworks.uark.edu/etd/2146.

Martin, W. and K. Anderson. 2011. Export Restrictions and Price Insulation during Commodity Price Boom. *Policy Research Working Paper*. No. 5645. Washington, DC: World Bank.

Mishra, M. 2020. Collaborating in a Time of Crisis: Three Early Takeaways from the COVID-19 Response in India. IFAD Blog. 21 April. https://www.ifad.org/en/web/latest/blog/asset/41885044.

North. 2020. COVID-19: Coronavirus Outbreak - Impact on Shipping *Update*. 15 April. https://www.nepia.com/industry-news/coronavirus-outbreak-impact-on-shipping/.

Ponsot, F., B. Vásquez, D. Terry, and P. De Vasconcelos. 2017. Sending Money Home: Contributing to the SDGs, one family at a time. *Report to the International Fund for Agricultural Development (June)*. Rome, Italy: United Nations.

Pothan, P. E., M. Taguchi, and G. Santini. 2020. Local Food Systems and COVID-19: A Glimpse on India's Responses. FAO. http://www.fao.org/in-action/food-for-cities-programme/news/detail/en/c/1272232/.

PTI. 2020. With Three Major Agri-Market Reforms, Modi Govt Finally Bites the Bullet. *Financial Express*. 15 May. https://www.financialexpress.com/economy/agri-market-reforms-nirmala-sitharaman-stimulus-package-covid-economic-package-essential-commodities-act-latest-news/1960548/.

Schmidhuber, J., J. Pound, and B. Qiao. 2020. *COVID-19: Channels of Transmission to Food and Agriculture.* Rome: FAO.

Taghizadeh-Hesary, F., E. Rasoulinezhad, and N. Yoshino. 2019. Energy and Food Security: Linkages through Price Volatility. *Energy Policy. 128.* pp. 796–806.

Tantau, M. 2020. Is Indonesia Facing a Looming Food Crisis?. *The Diplomat.* 5 May. https://thediplomat.com/2020/05/is-indonesia-facing-a-looming-food-crisis/.

United Nations Children's Fund (UNICEF). 2020. Joint Statement on Nutrition in the Context of the COVID-19 Pandemic in Asia and the Pacific. 17 April. https://www.unicef.org/rosa/press-releases/joint-statement-nutrition-context-covid-19-pandemic-asia-and-pacific.

Wei, A.C. 2020. Food, Essential Items from New Zealand to Land in Singapore Under Trade Declaration. *The Straits Times.* 16 April.

https://www.straitstimes.com/business/food-essential-items-from-nz-to-land-hereunder-trade-declaration.
Wiggins, S., S. Keats, and J. Compton. 2010. *What Caused the Food Price Spike of 2007/08? Lessons for World Cereals Markets.* London: Overseas Development Institute. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6103.pdf.
World Trade Organization (WTO). 2020. Regional Trade Agreements Database. http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx (accessed 20 May 2020).
World Bank. 2020. COVID-19 Crisis Through a Migration Lens. *Migration and Development Brief.* 32. April 2020. Washington, DC.

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